

1/45

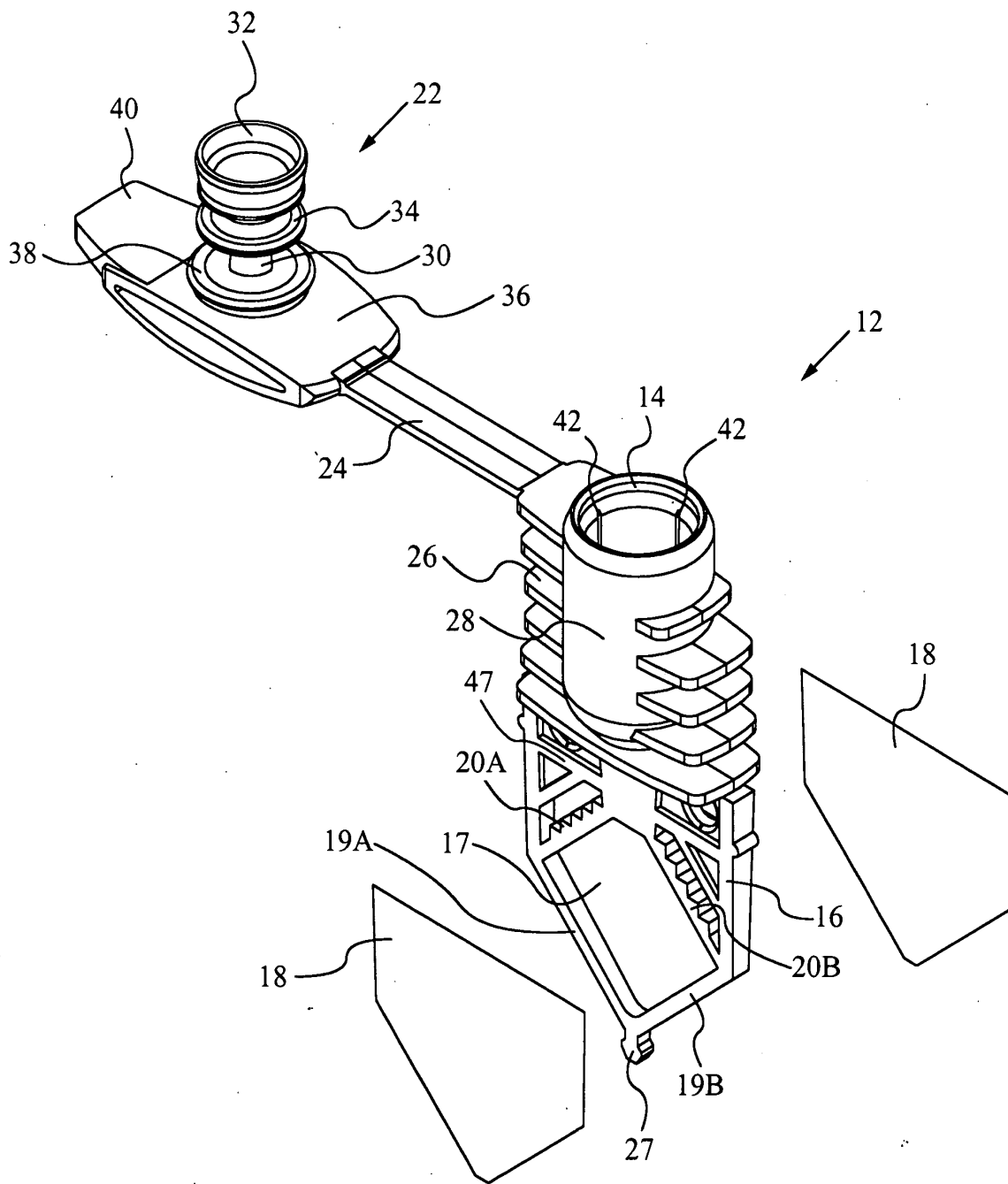
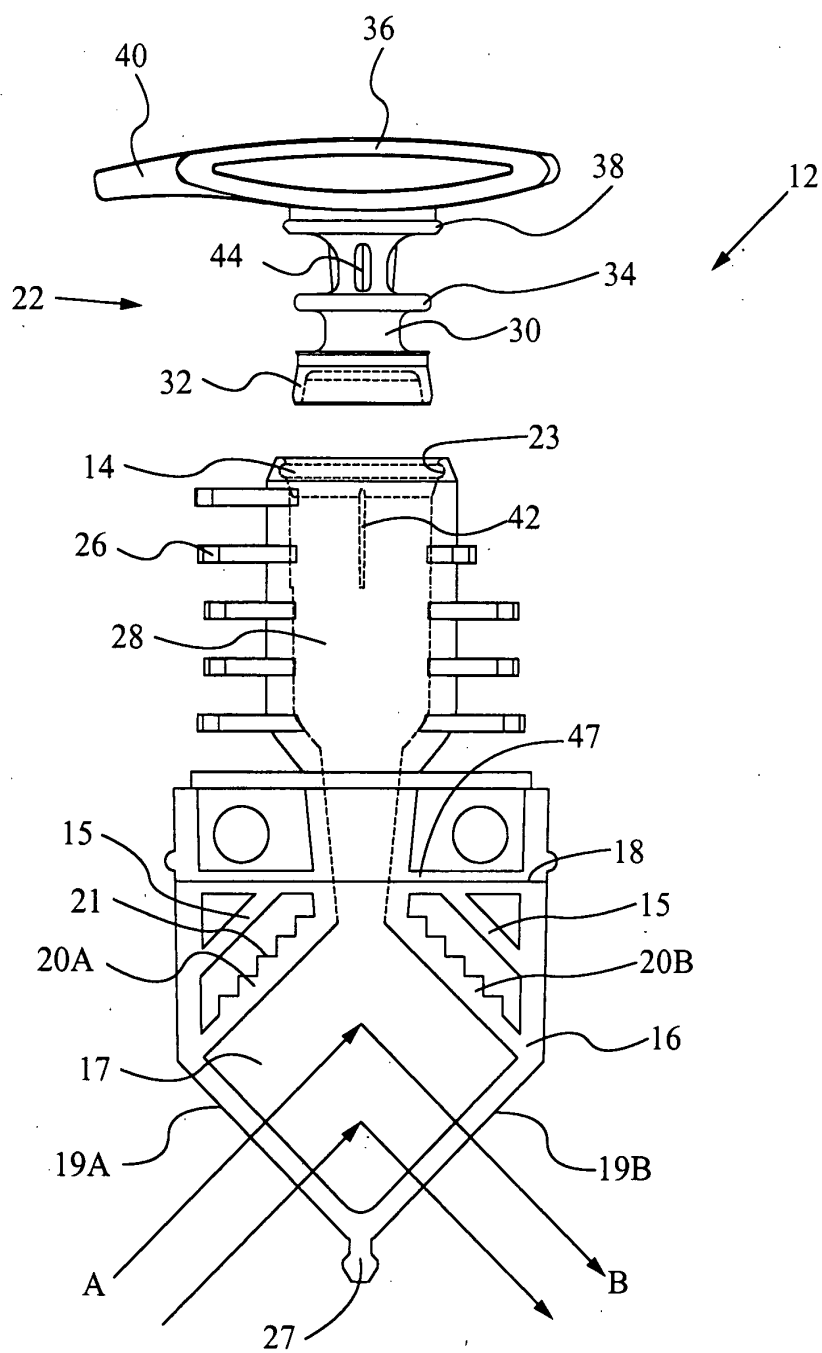


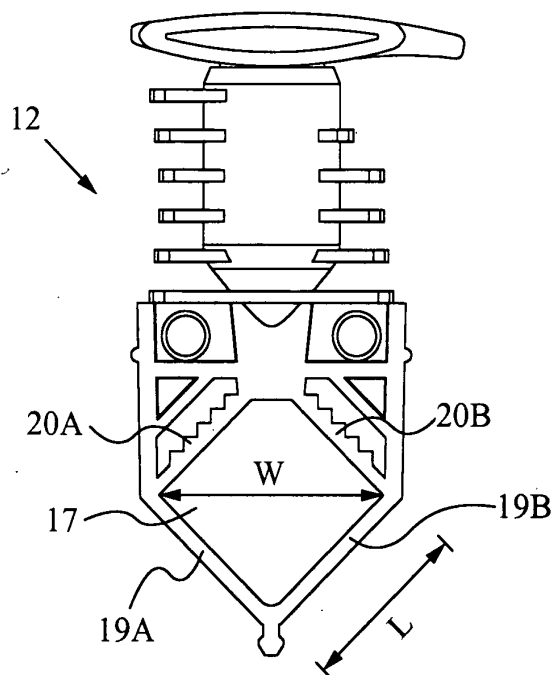
FIG. 1



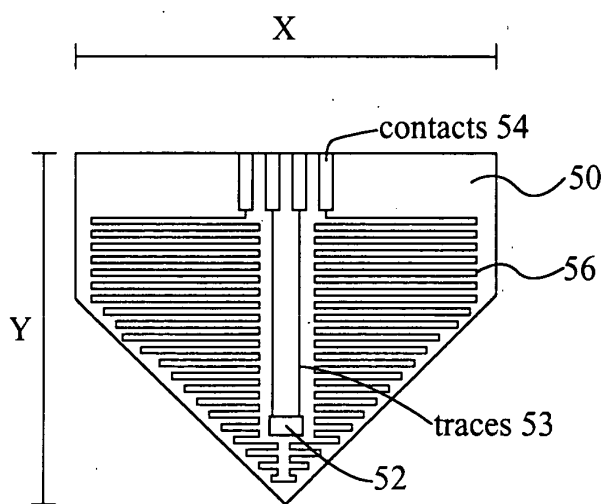
**FIG. 2**

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
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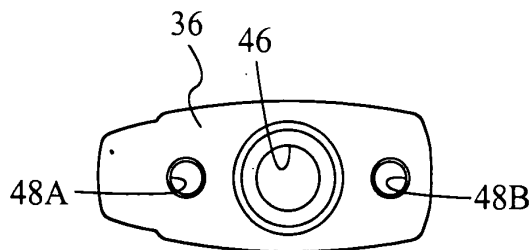
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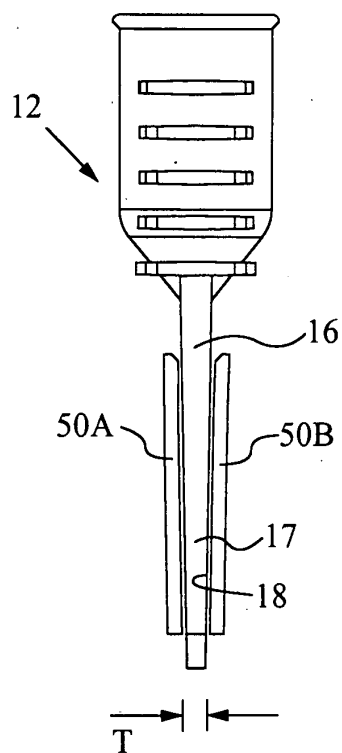
**FIG. 4**



**FIG. 6**



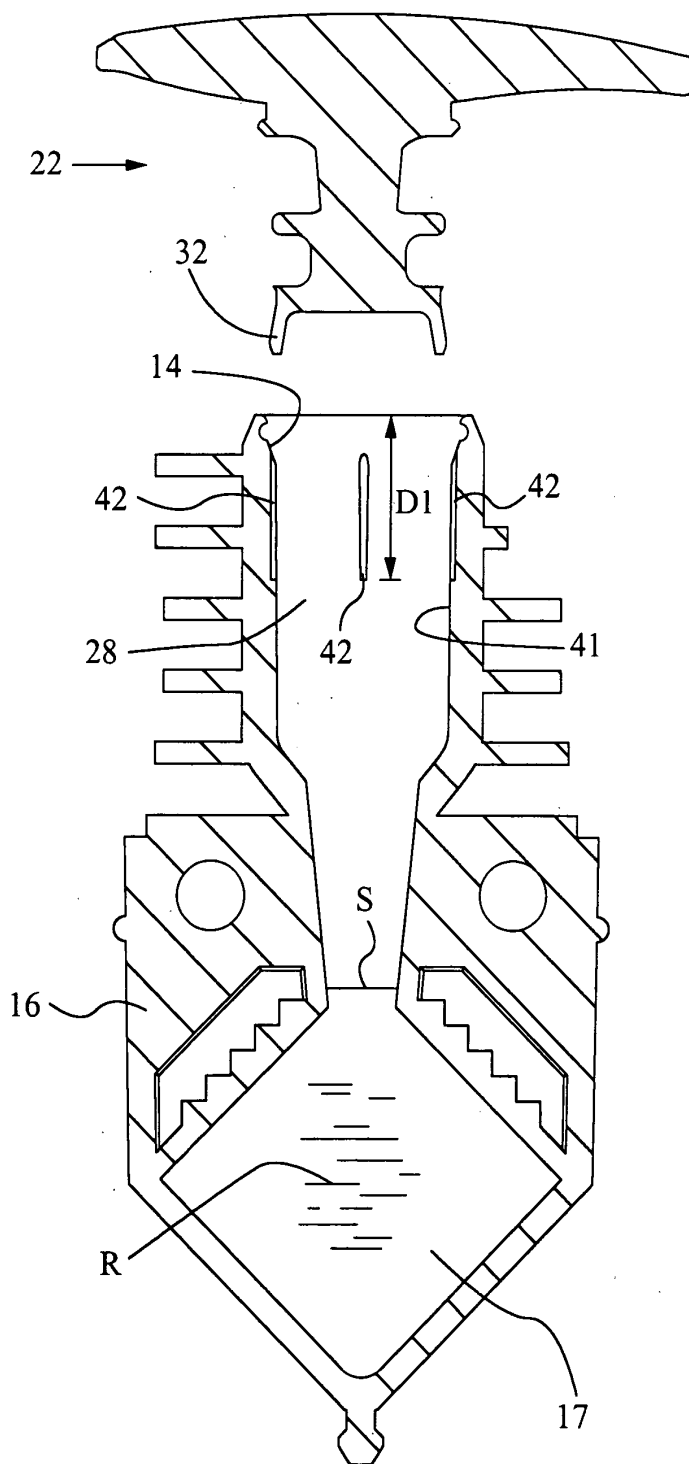
**FIG. 3**



**FIG. 5**

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
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**FIG. 7A**

APPROVED	O.G. FIG.
BY	CLASS
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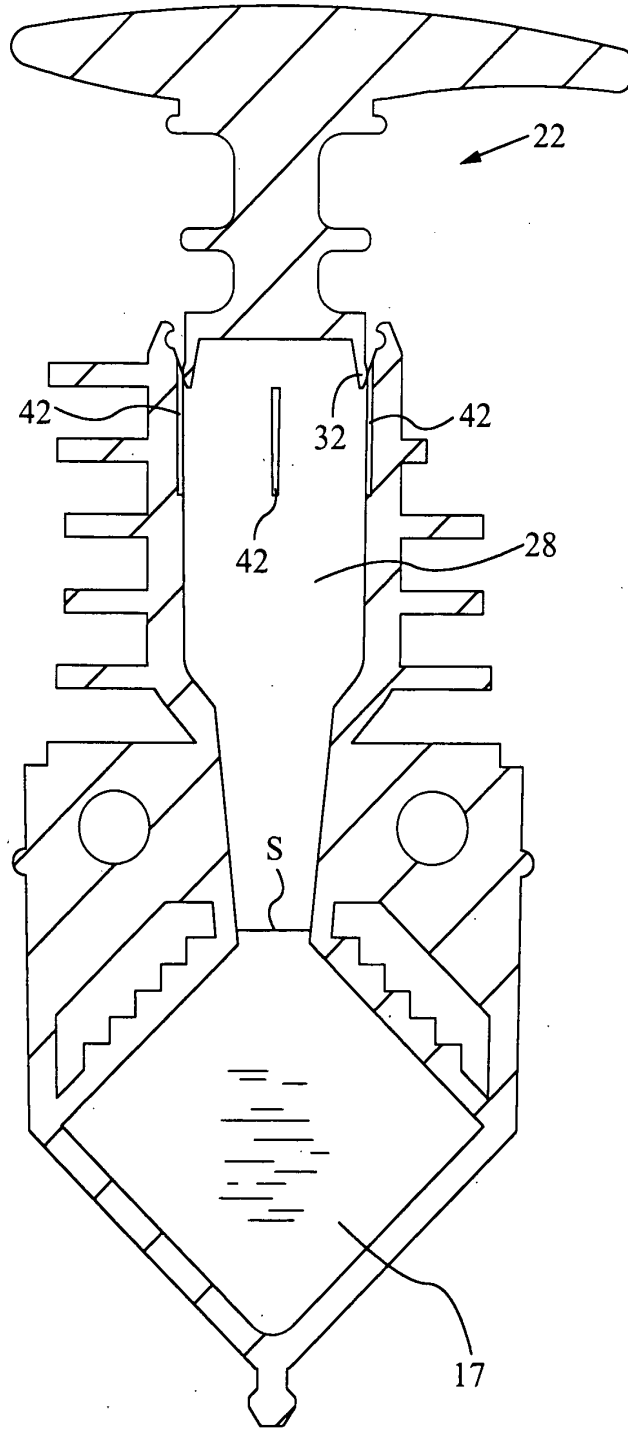


FIG. 7B

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APPROVED	O.G. FIG.
BY	CLASS
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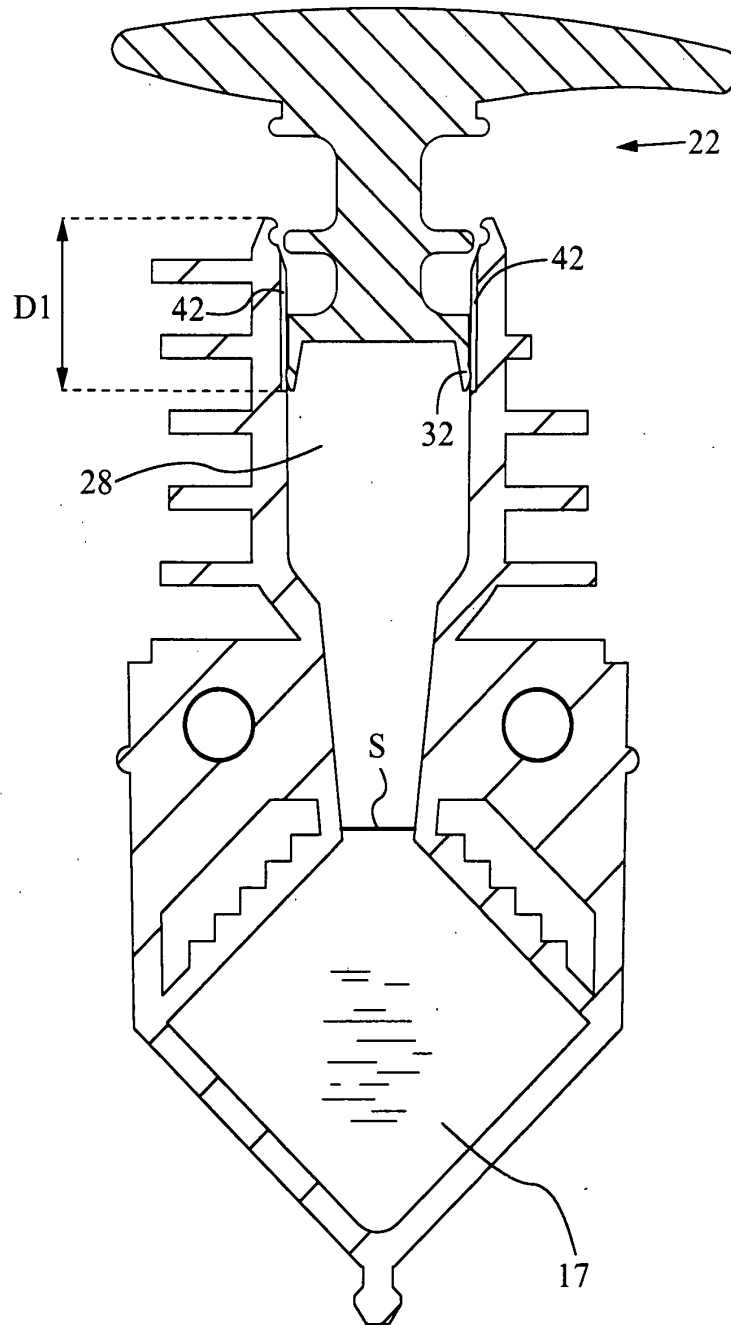


FIG. 7C

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APPROVED	O.G. FIG.
BY	CLASS
DRAFTSMAN	SUBCLASS

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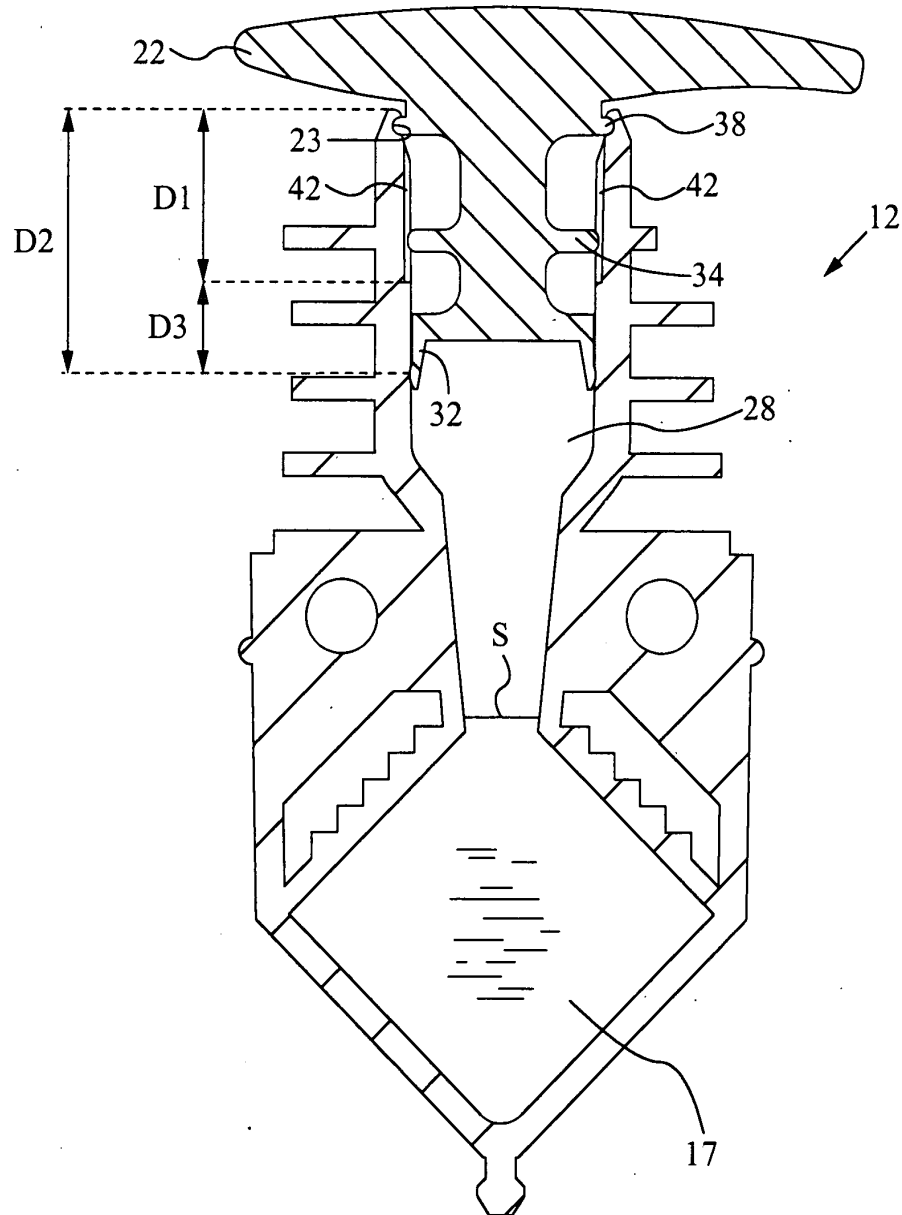


FIG. 7D

FIG. 7D is a cross-sectional view of the assembly 12, showing the central shaft 32 and the various components 22, 23, 42, 38, 42, 34, 28, 17, and S. The dimensions D1, D2, and D3 are indicated.

APPROVED	O.G. FIG.
BY	CLASS
DRAFTSMAN	SUBCLASS

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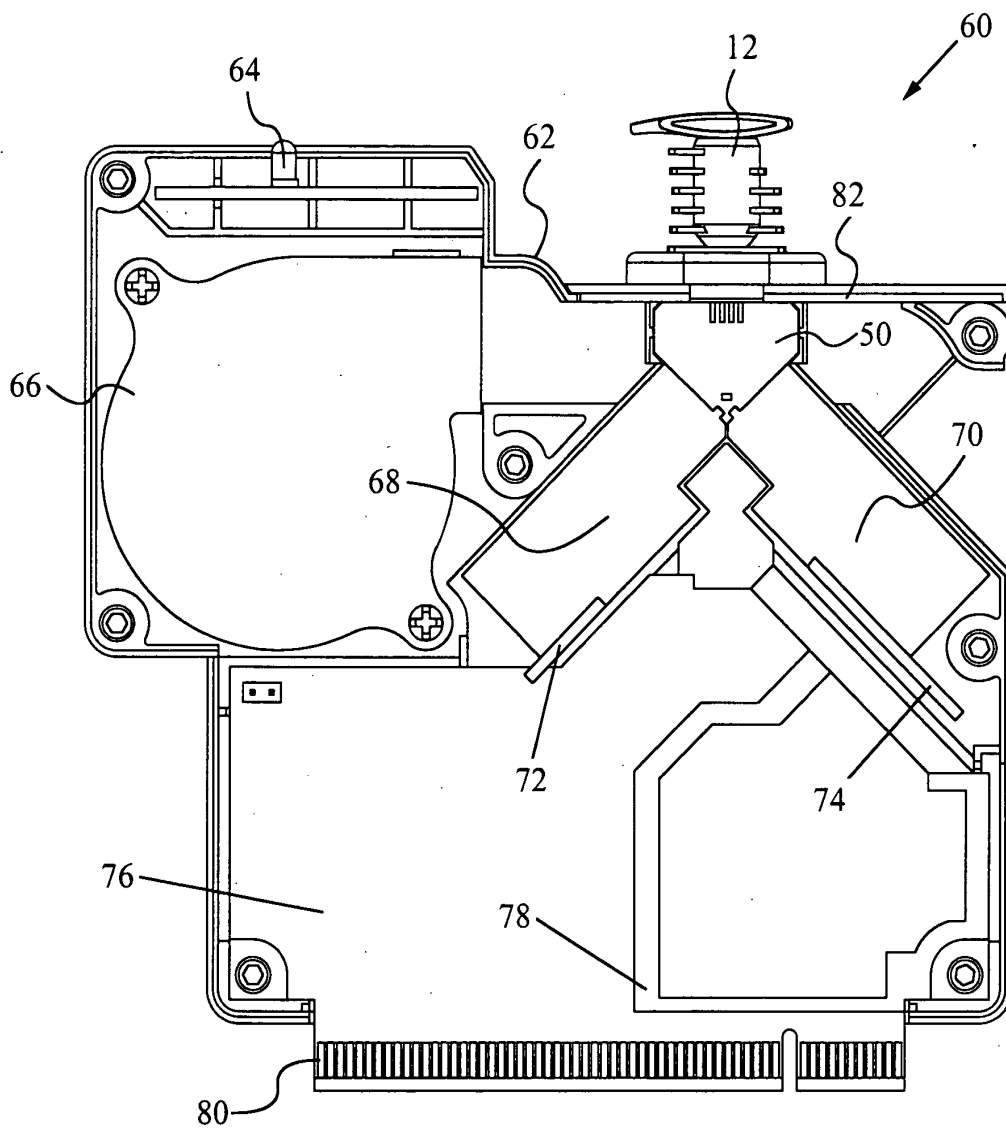


FIG. 8



APPROVED	O.G. FIG.
BY	CLASS
CHAFTMAN	SUBCLASS

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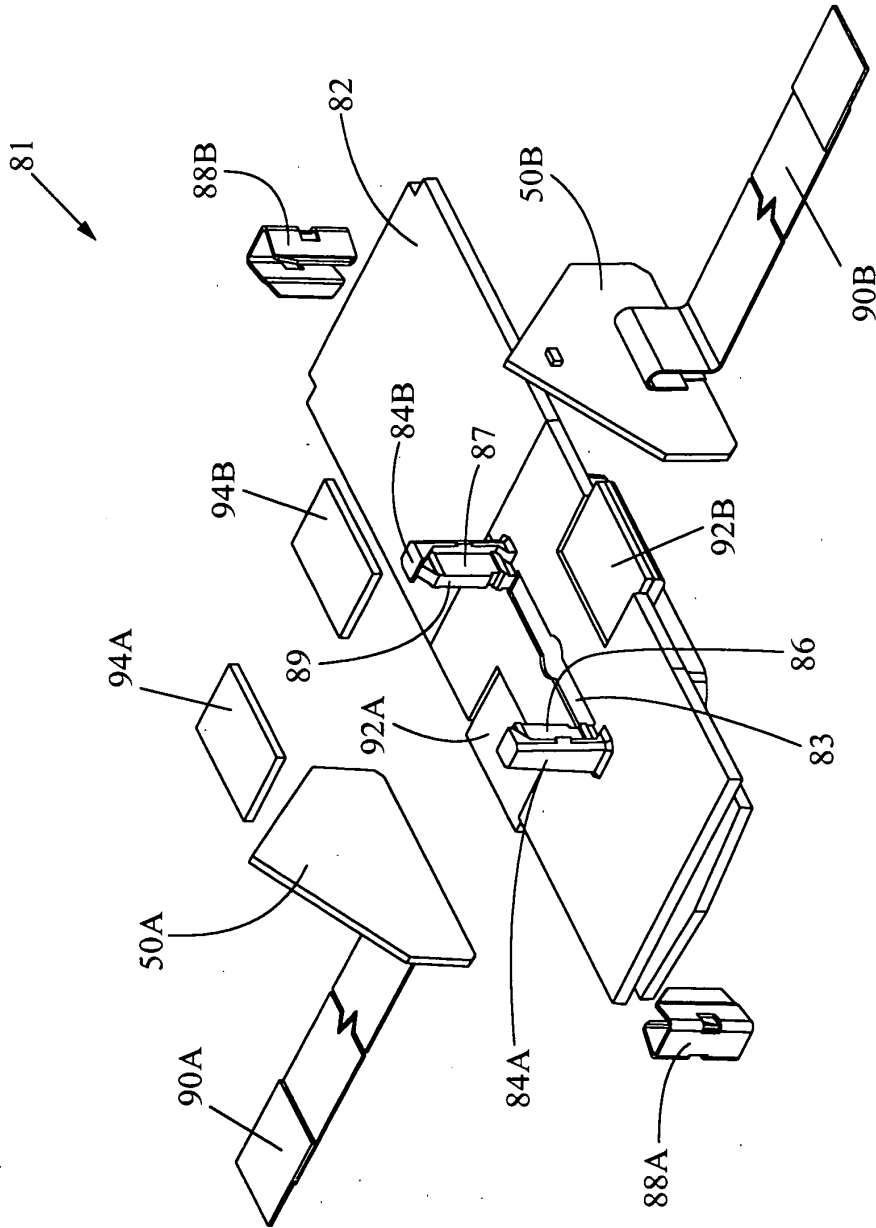


FIG. 9

FIG. 9 is an exploded perspective view of the assembly of FIG. 8, showing the components of the assembly in their relative positions and how they might be assembled.

APPROVED	O.G. FIG.
BY	CLASS
CRAFTSMAN	SUBCLASS

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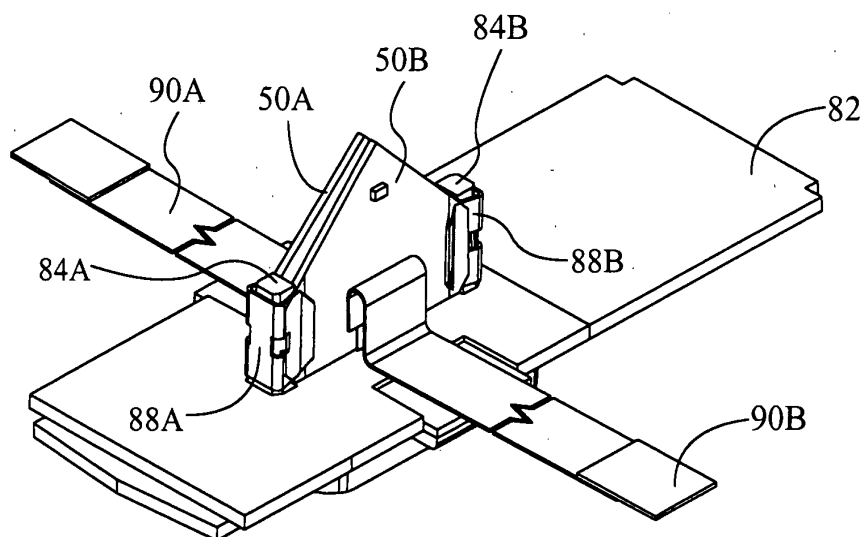


FIG. 10

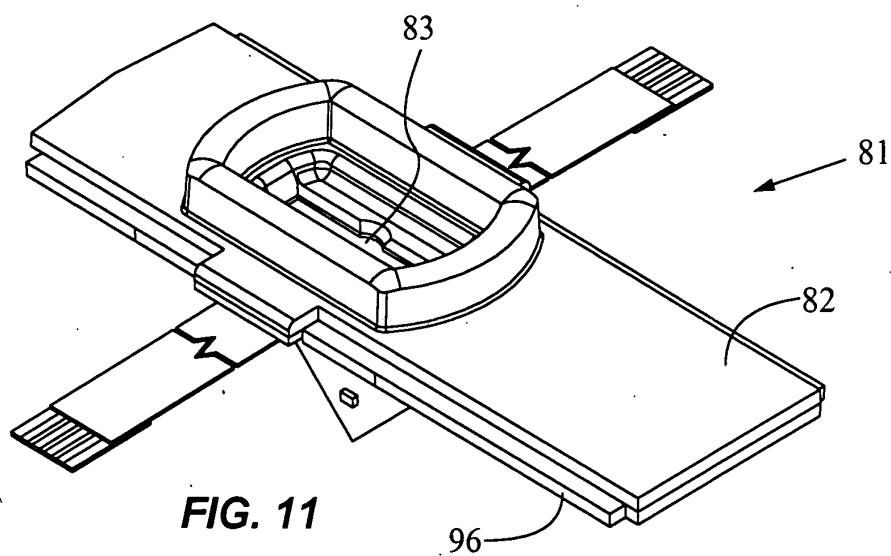


FIG. 11

APPROVED	O.G. FIG.
BY	CLASS
CRAFTSMAN	SUBCLASS

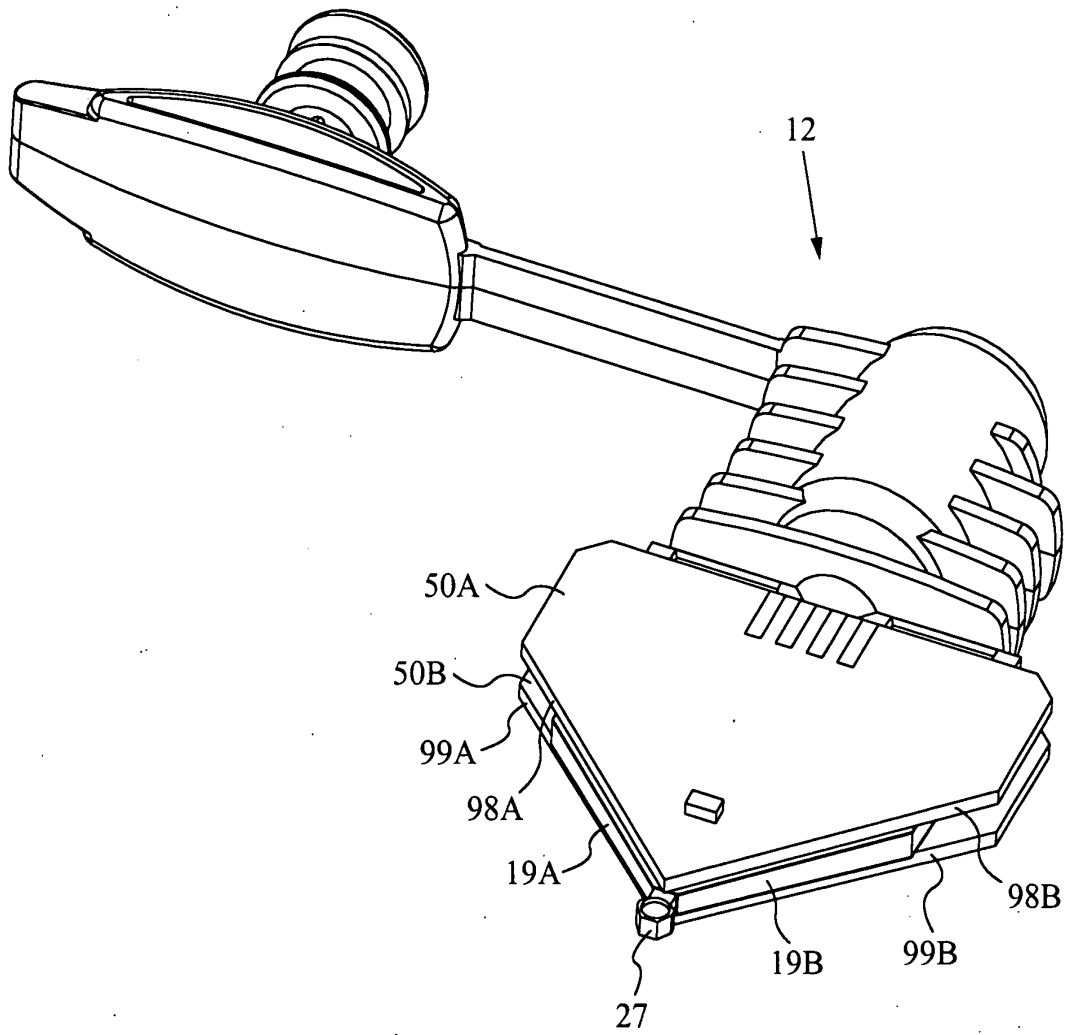
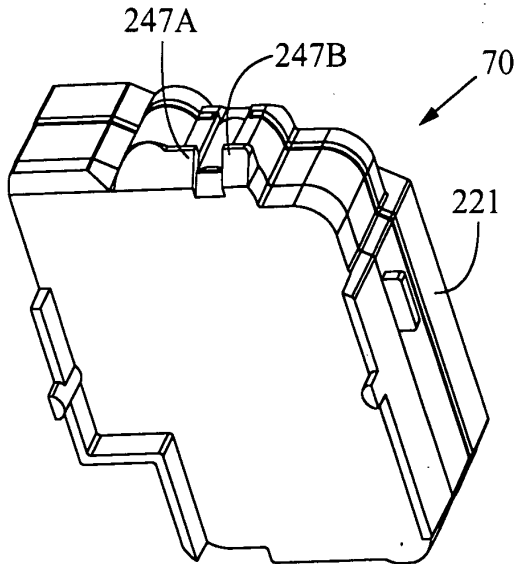


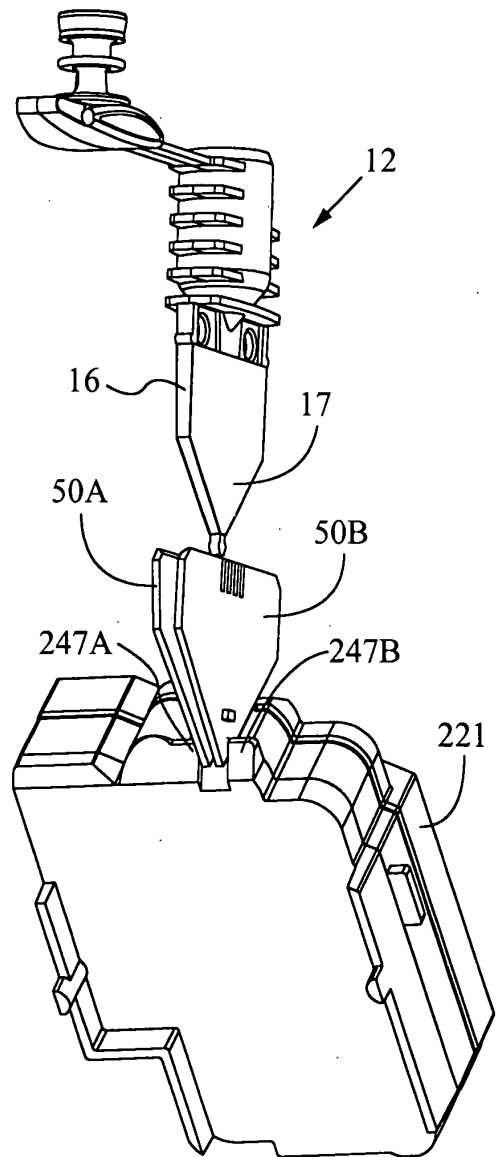
FIG. 12

APPROVED	D.G. FIG.
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**FIG. 13**



**FIG. 14**

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
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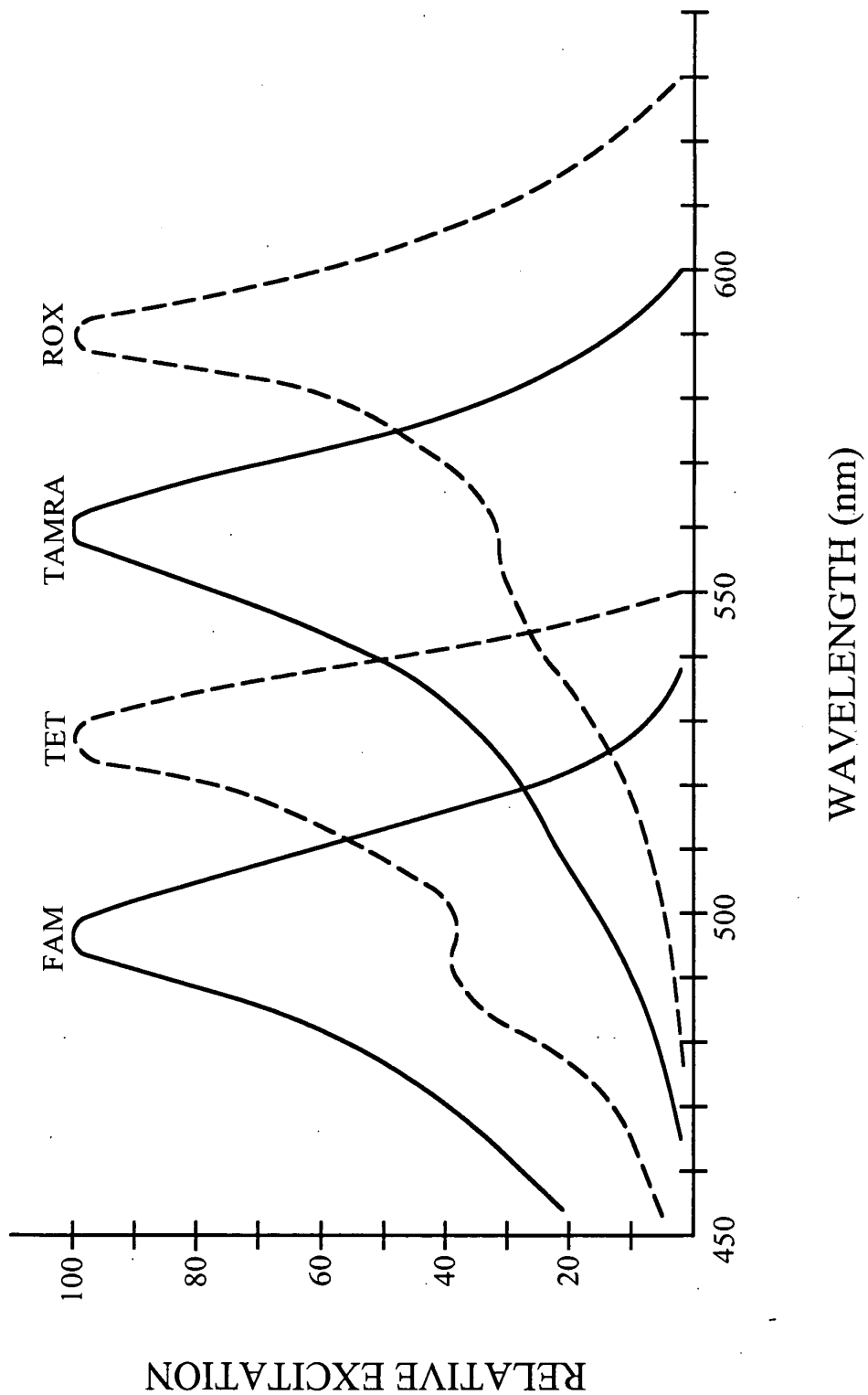


FIG. 15A

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
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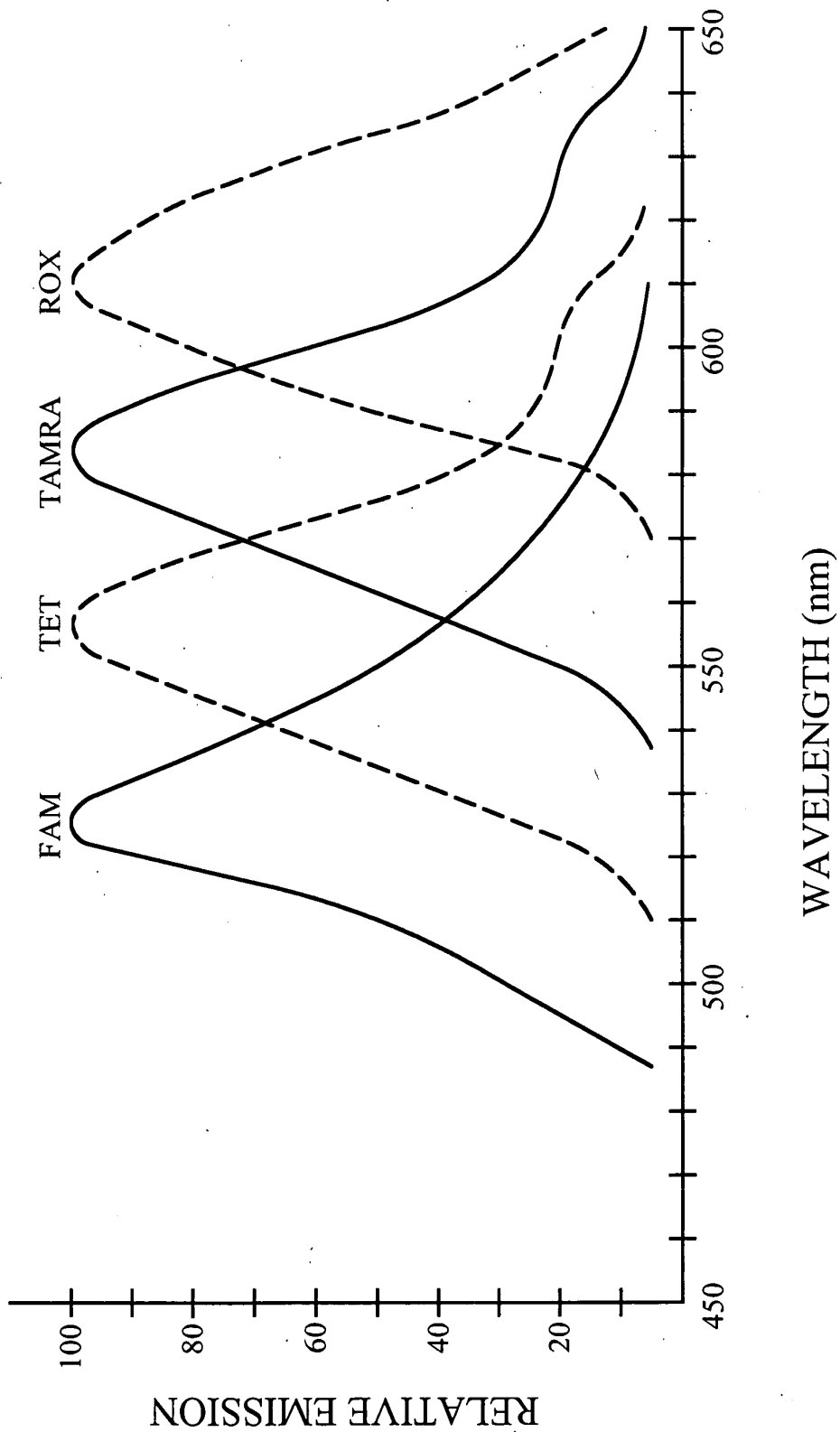


FIG. 15B

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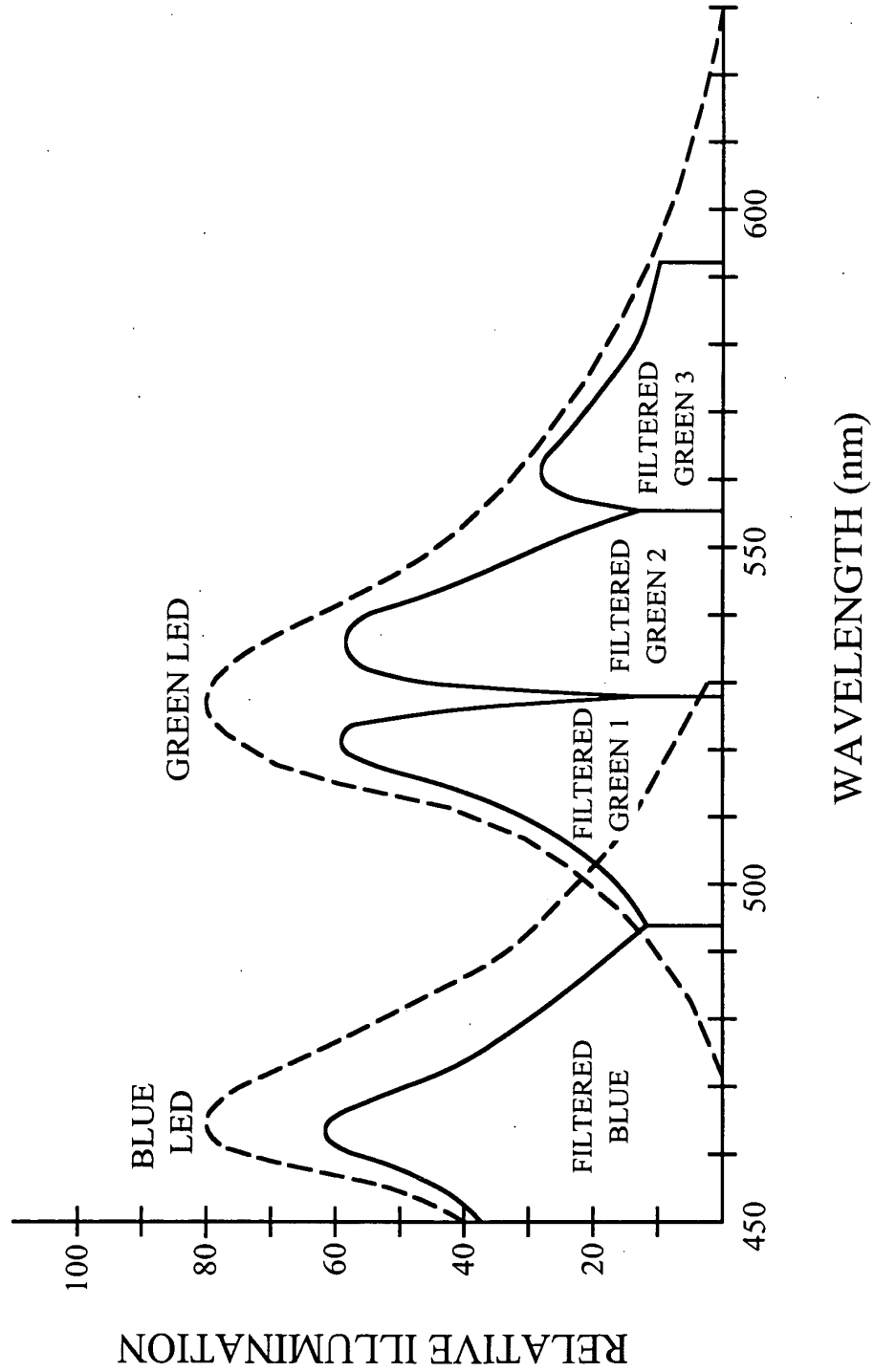
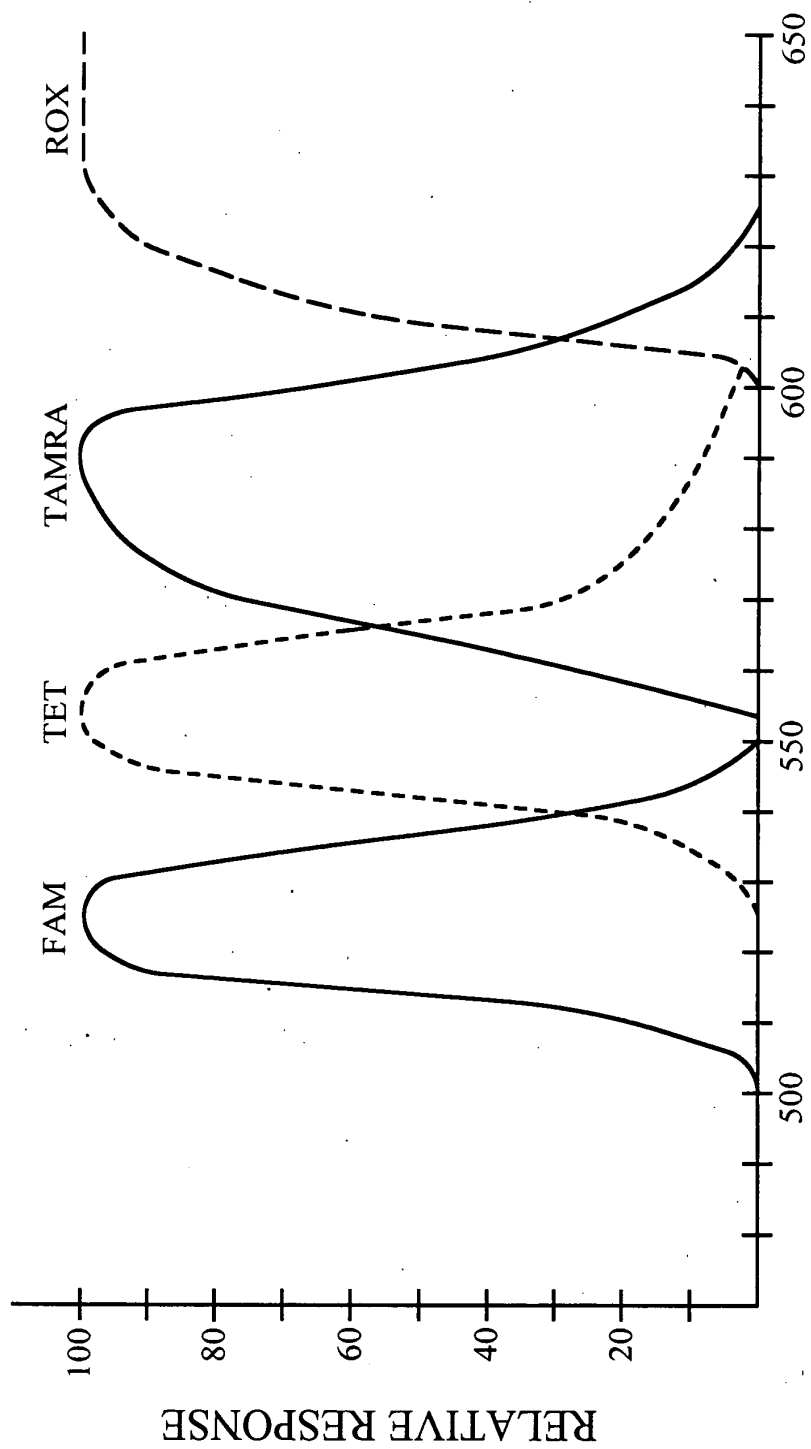


FIG. 15C

FIG. 15D is a graph showing the relative response of the detector as a function of wavelength for the four dyes. The solid lines represent the theoretical response curves, and the dashed lines represent the experimental response curves. The x-axis is wavelength in nm, and the y-axis is relative response.



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WAVELENGTH (nm)

FIG. 15D



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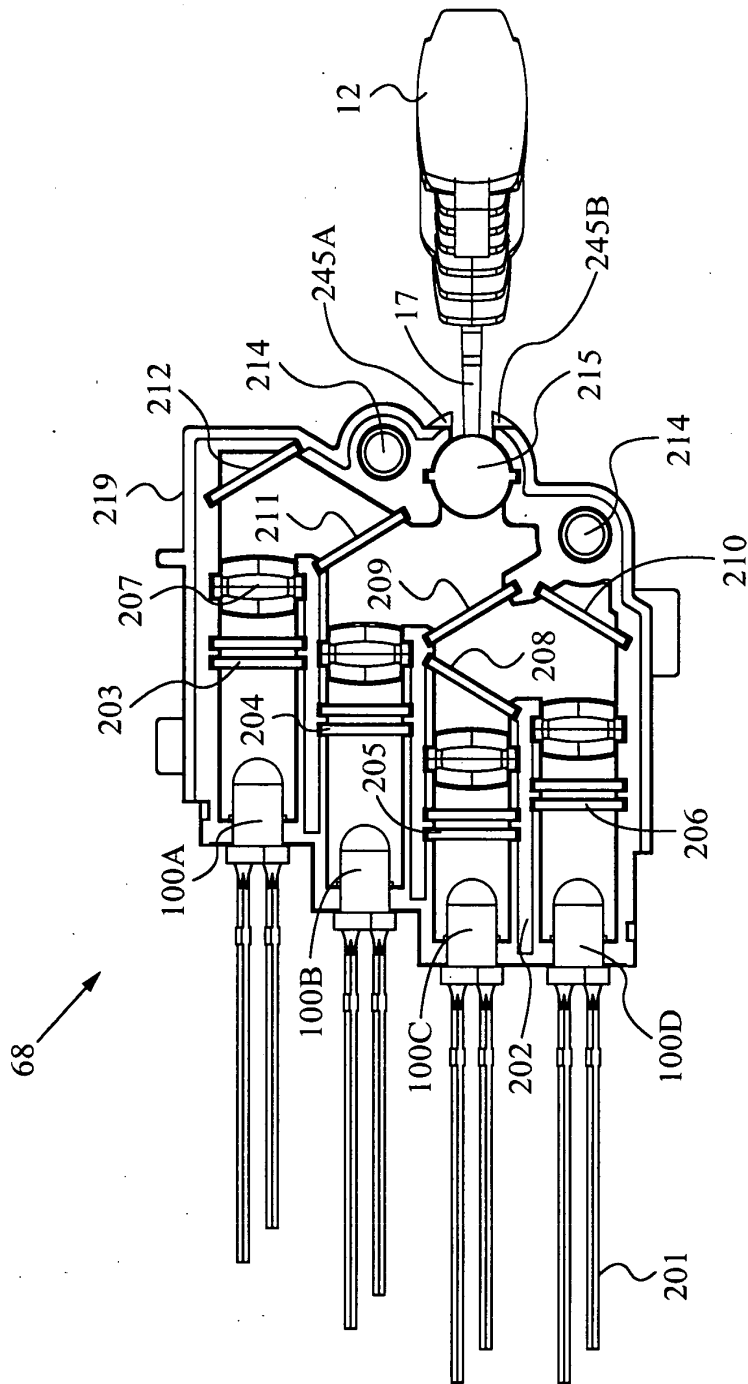


FIG. 16

APPROVED	00	FIG.
BY	CLASS	SUBCLASS
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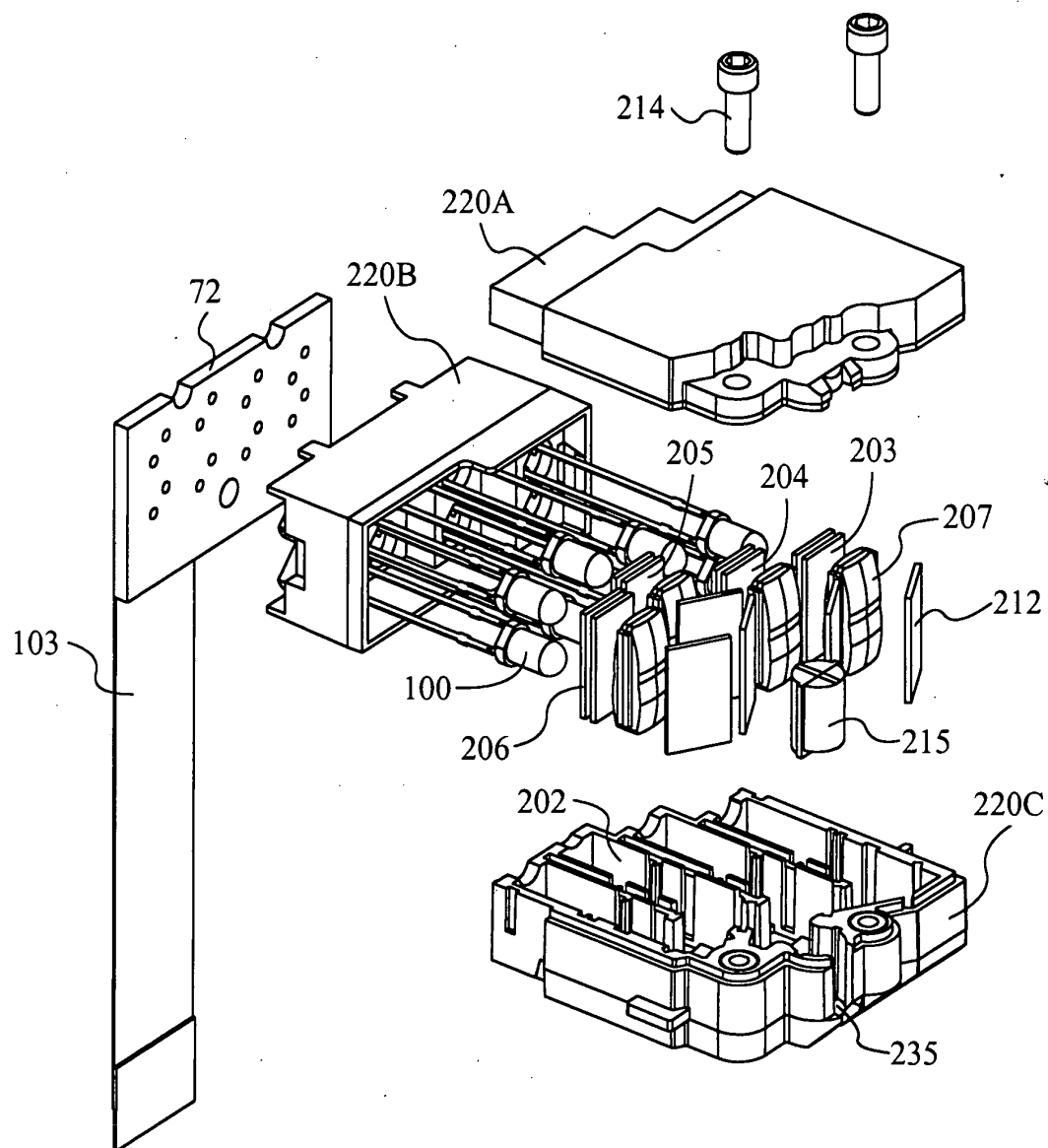


FIG. 17

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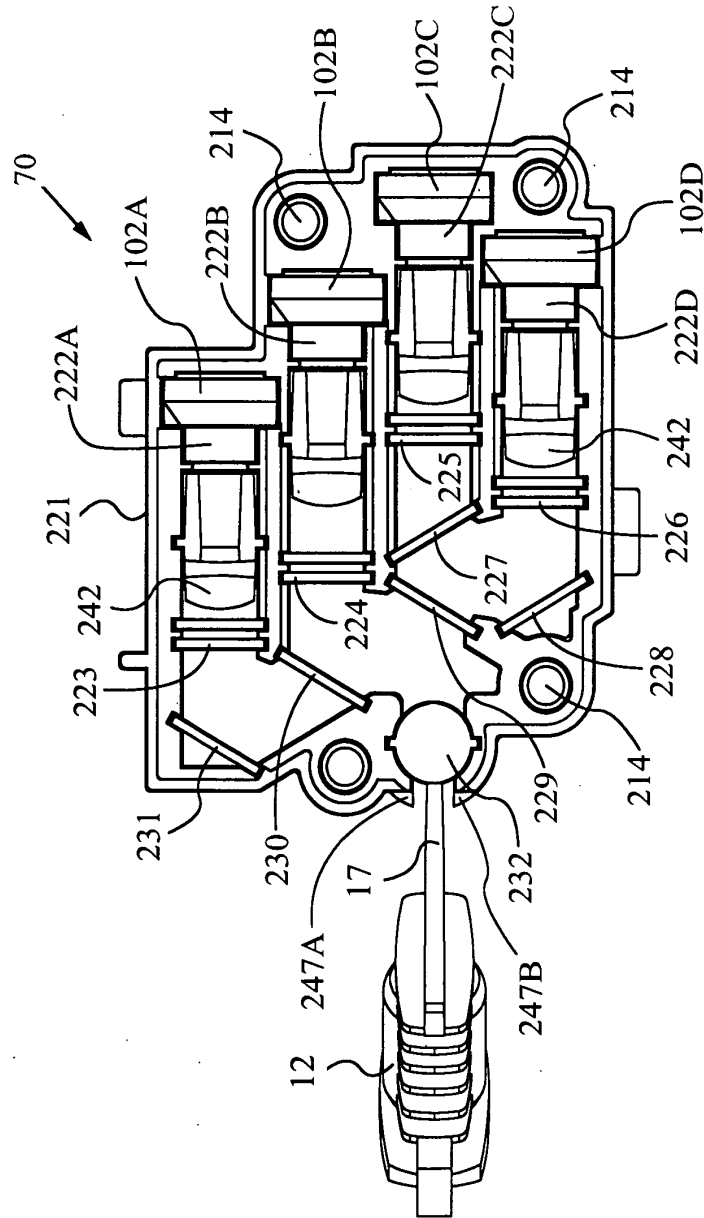


FIG. 18

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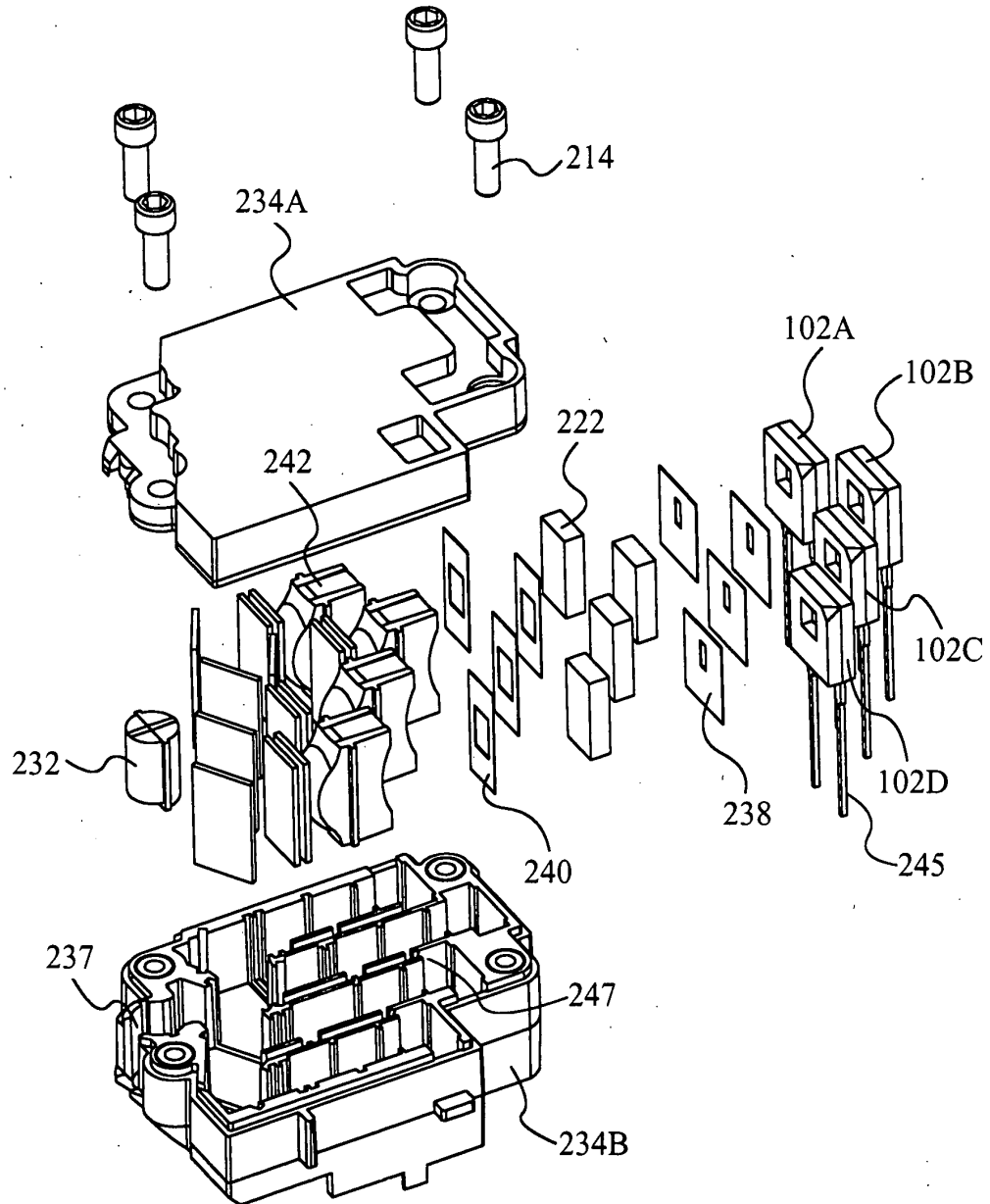


FIG. 19

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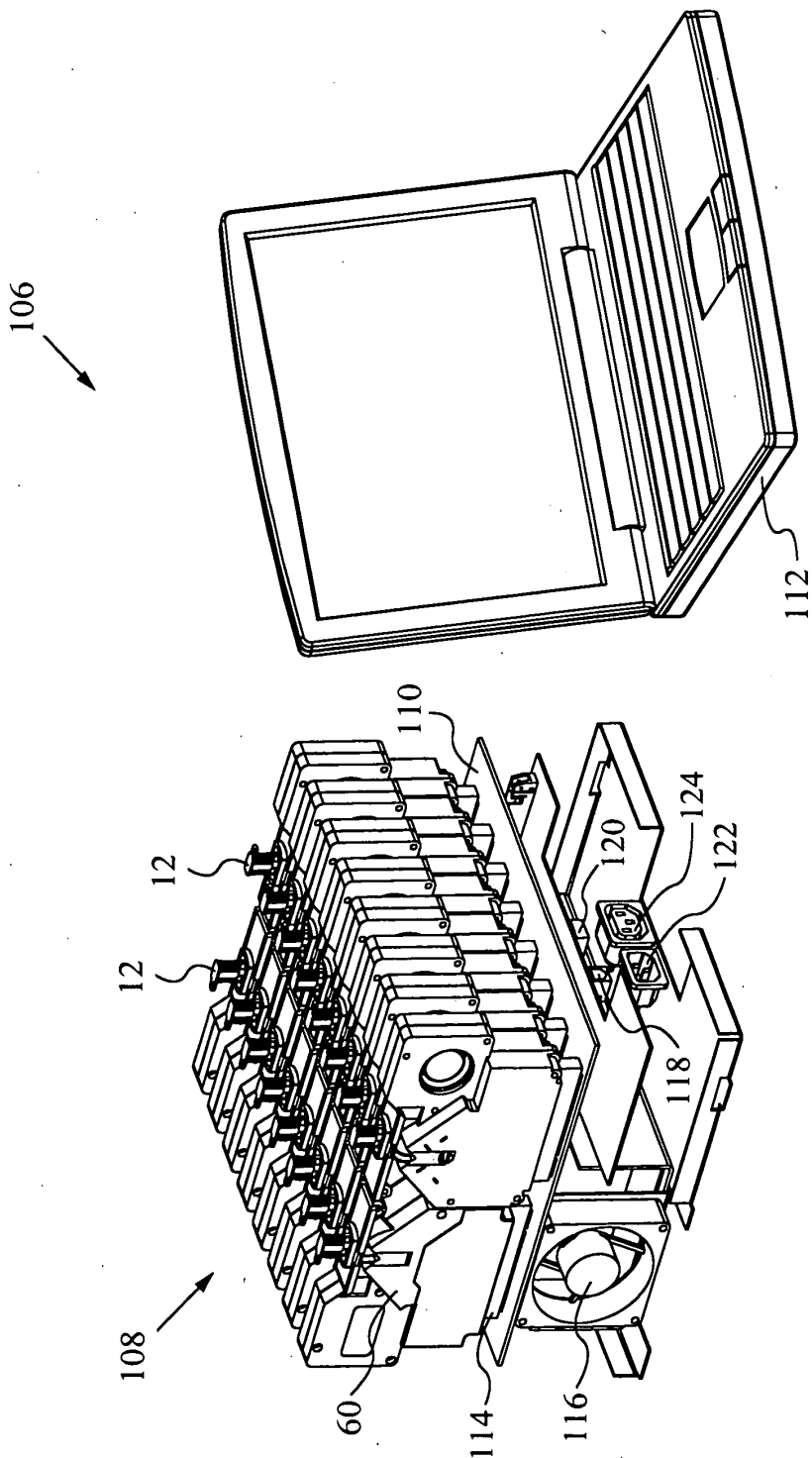


FIG. 20

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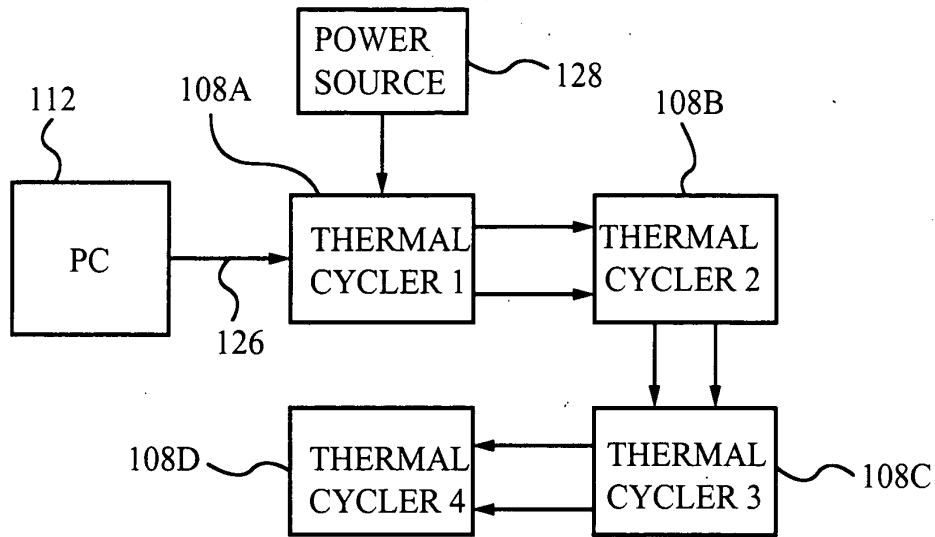


FIG. 21

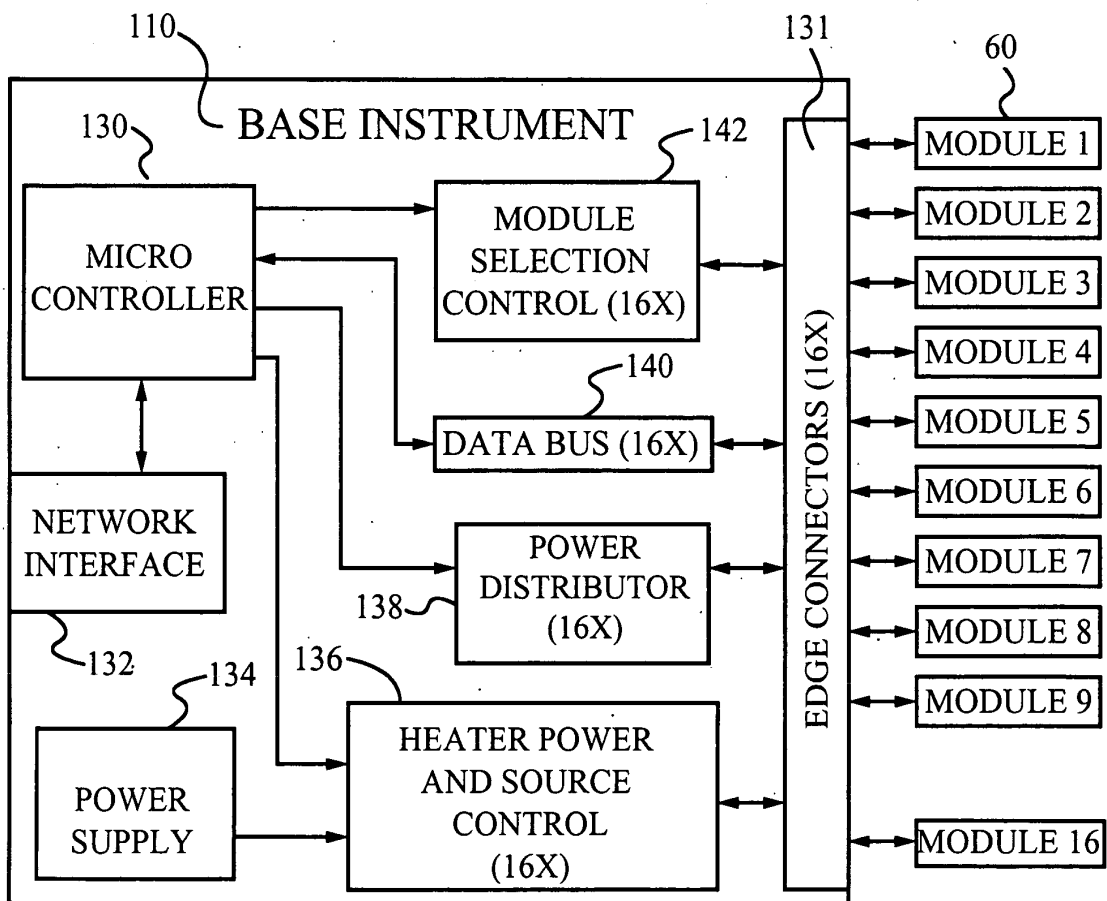


FIG. 22

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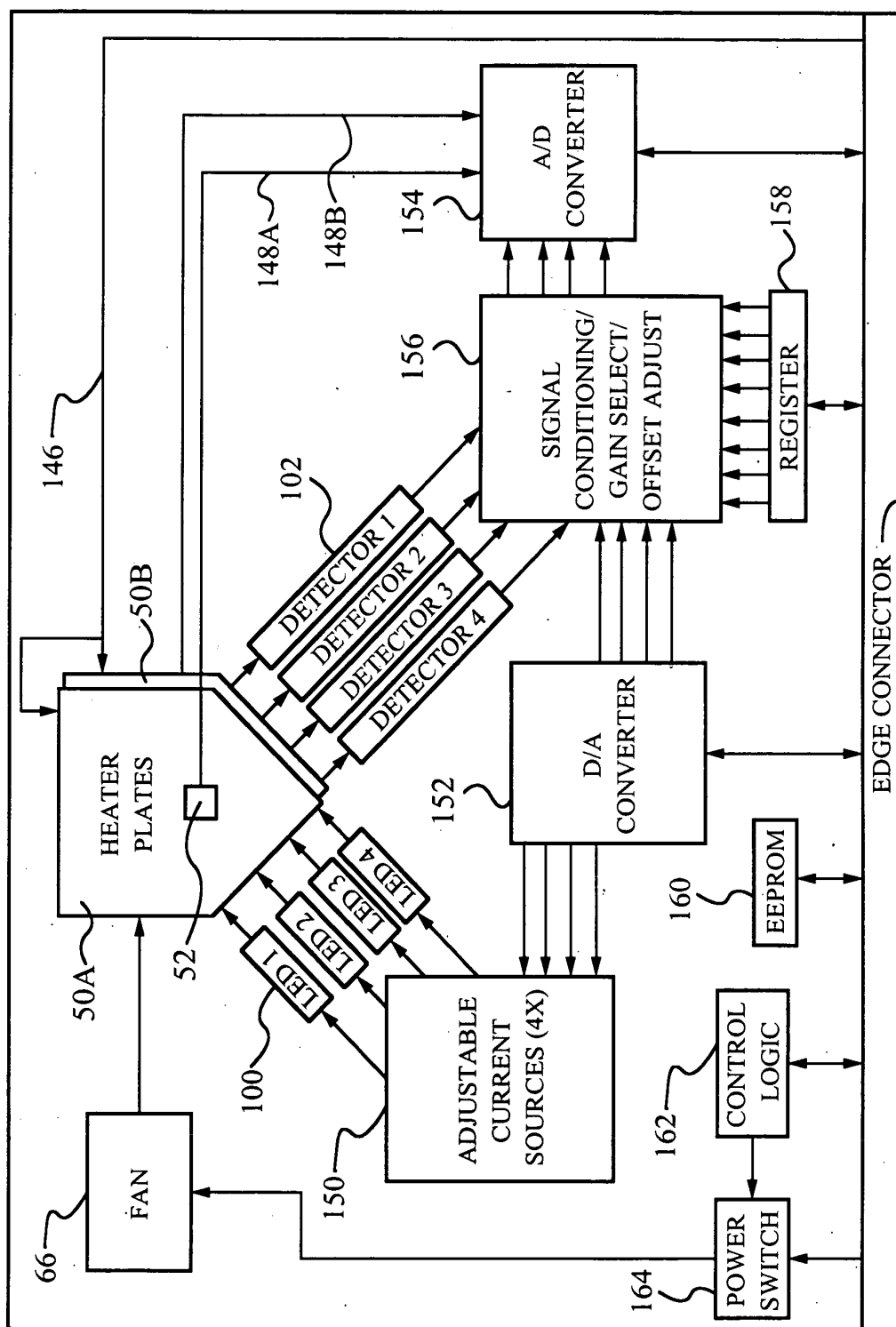
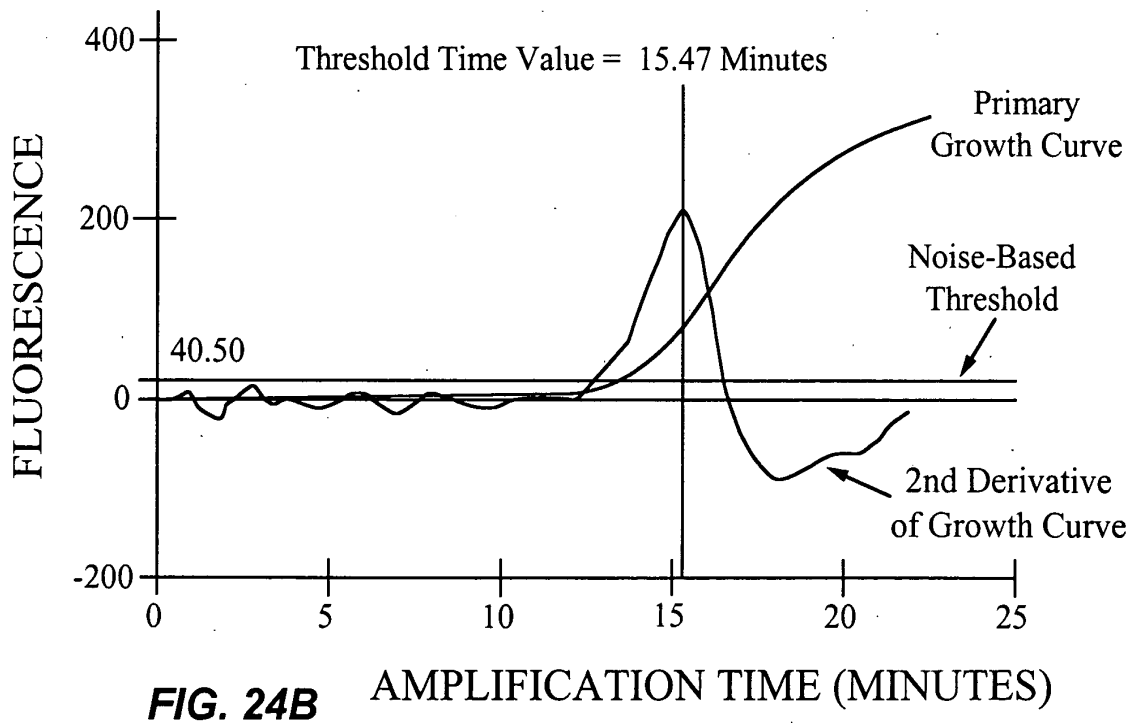
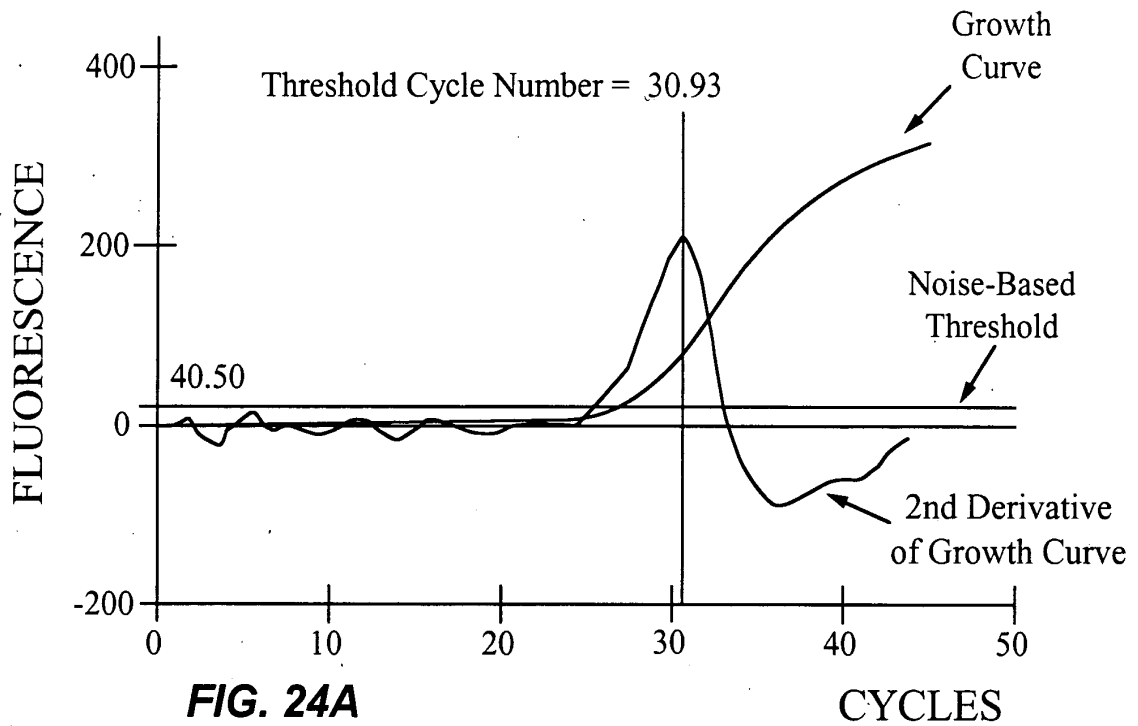


FIG. 23

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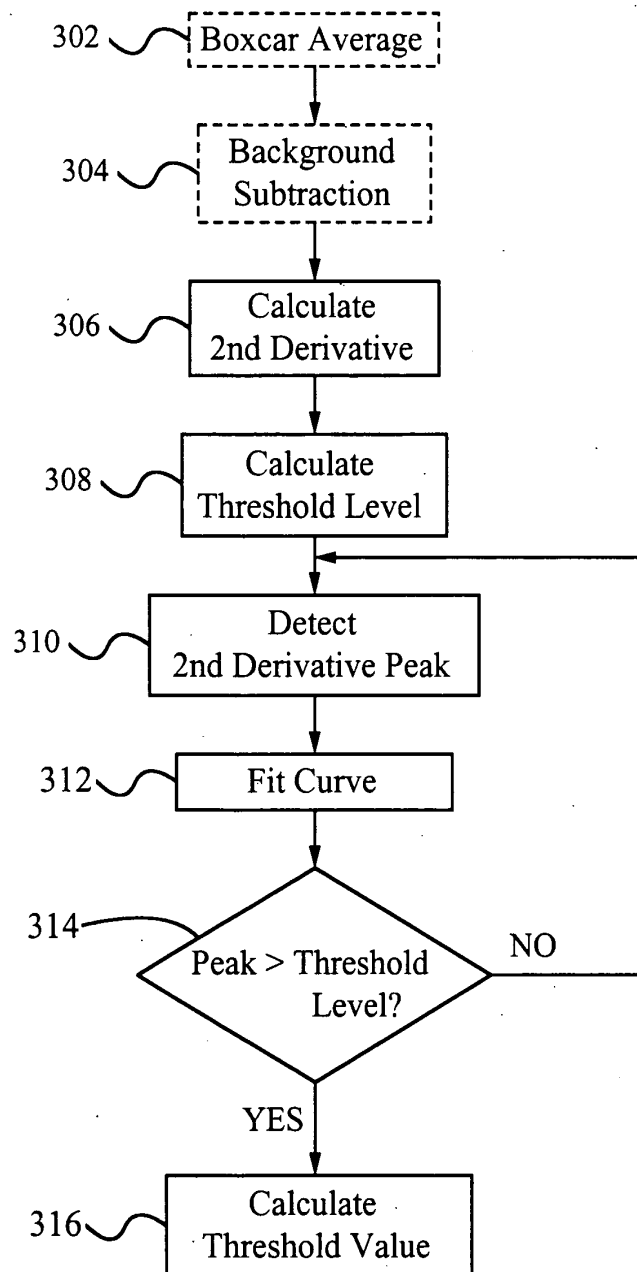


FIG. 25

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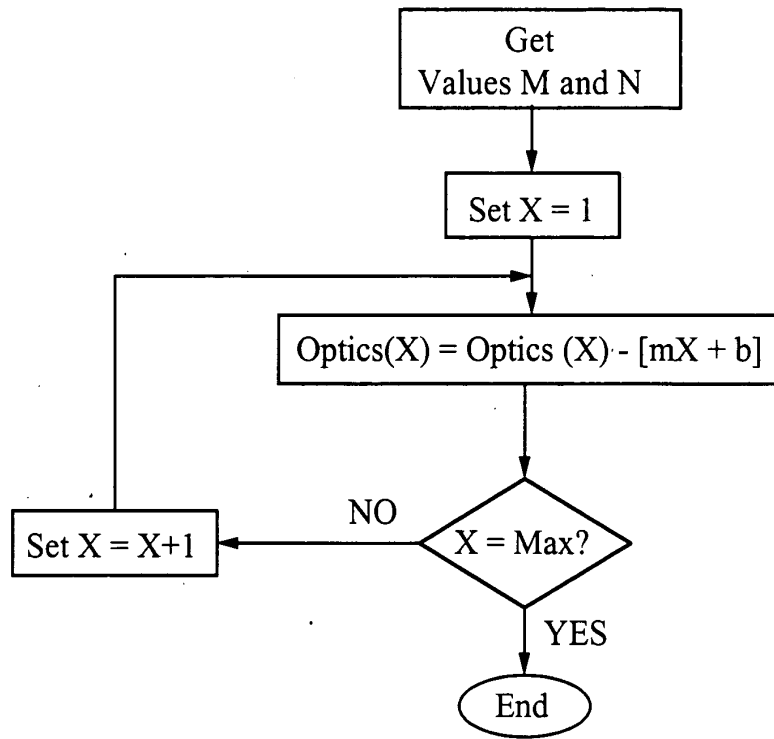


FIG. 26

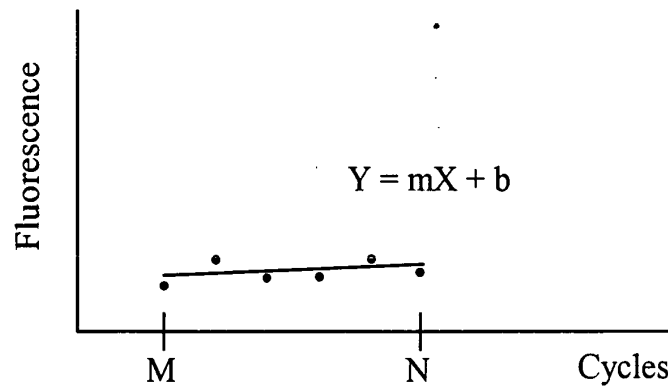


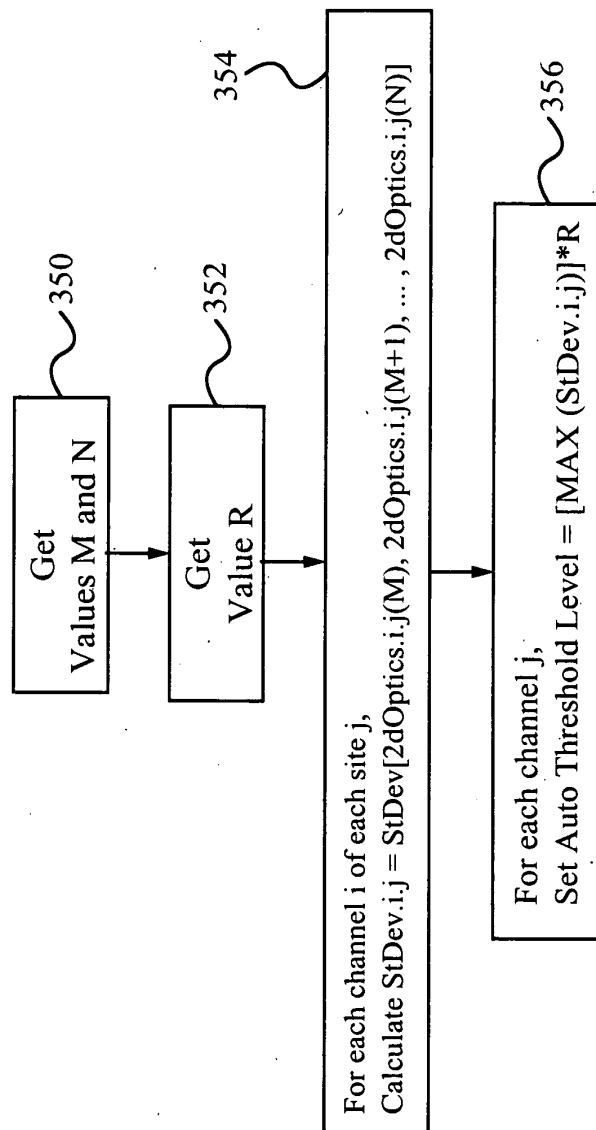
FIG. 27

**FIG. 28A**

**FIG. 28B**

**FIG. 28C**

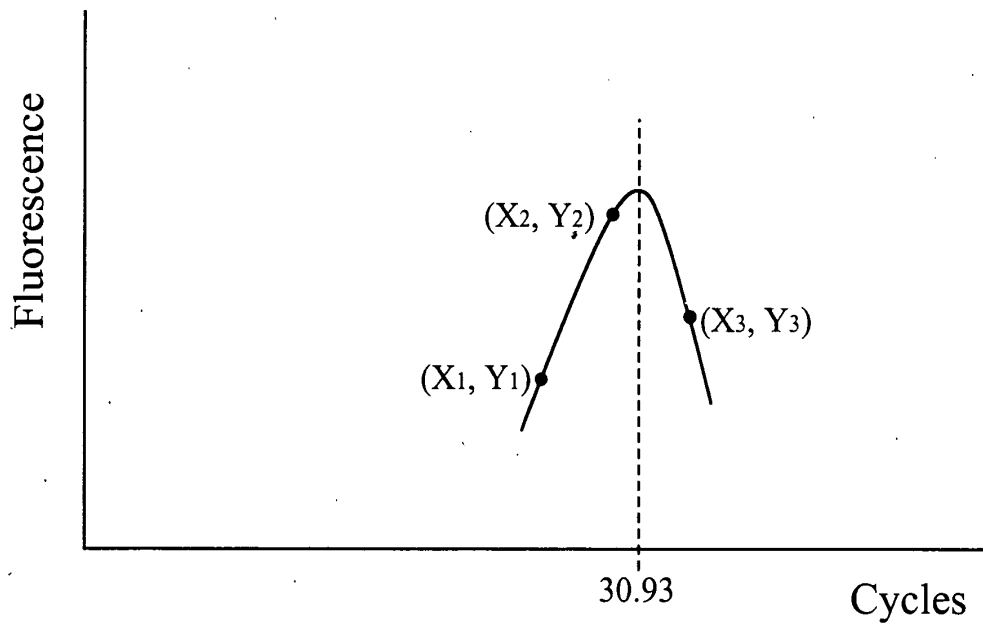
**FIG. 28C**



**FIG. 29**

APPROVED	OG. FIG.
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DRAFTSMAN	SUBCLASS

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**FIG. 30**

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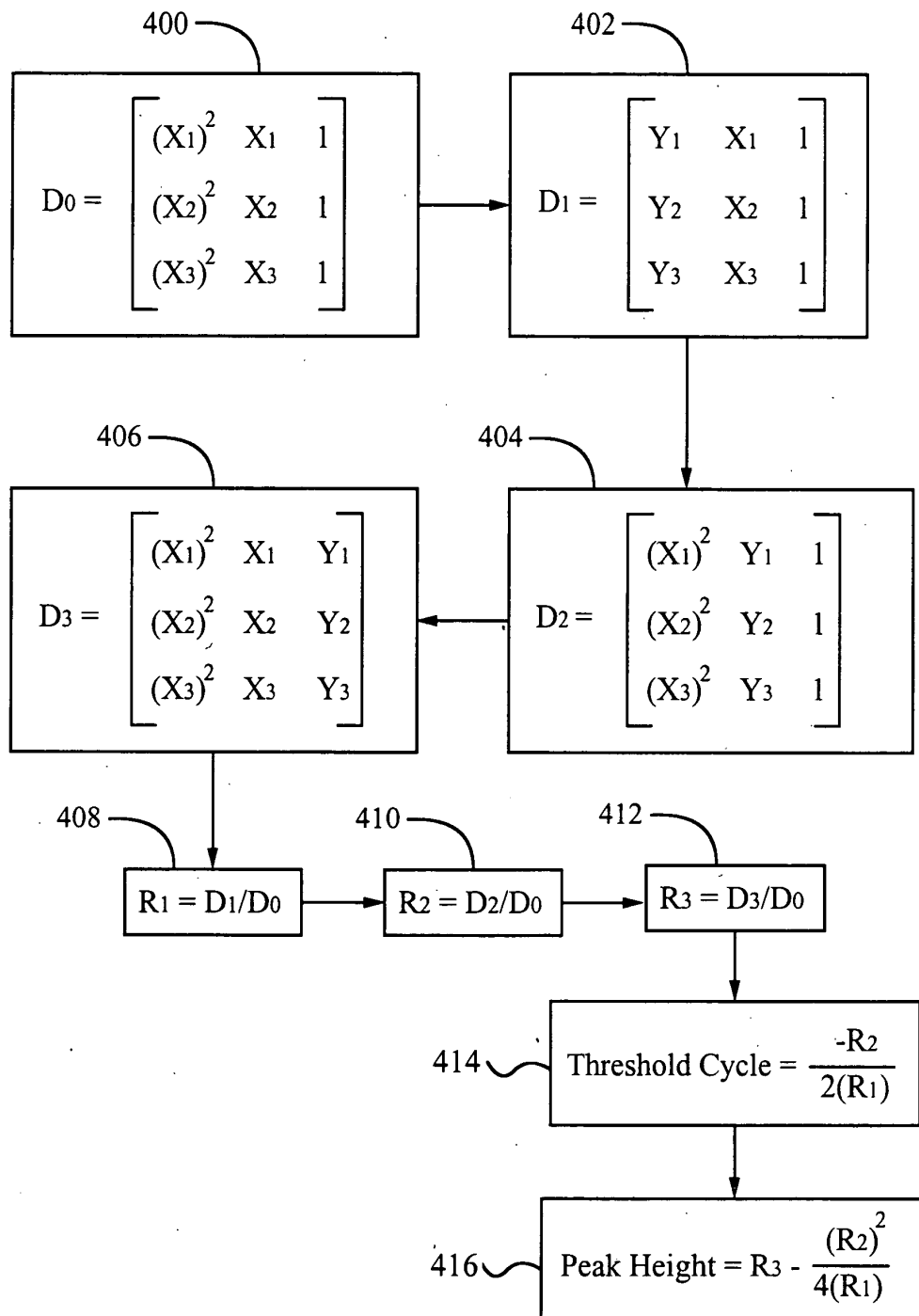
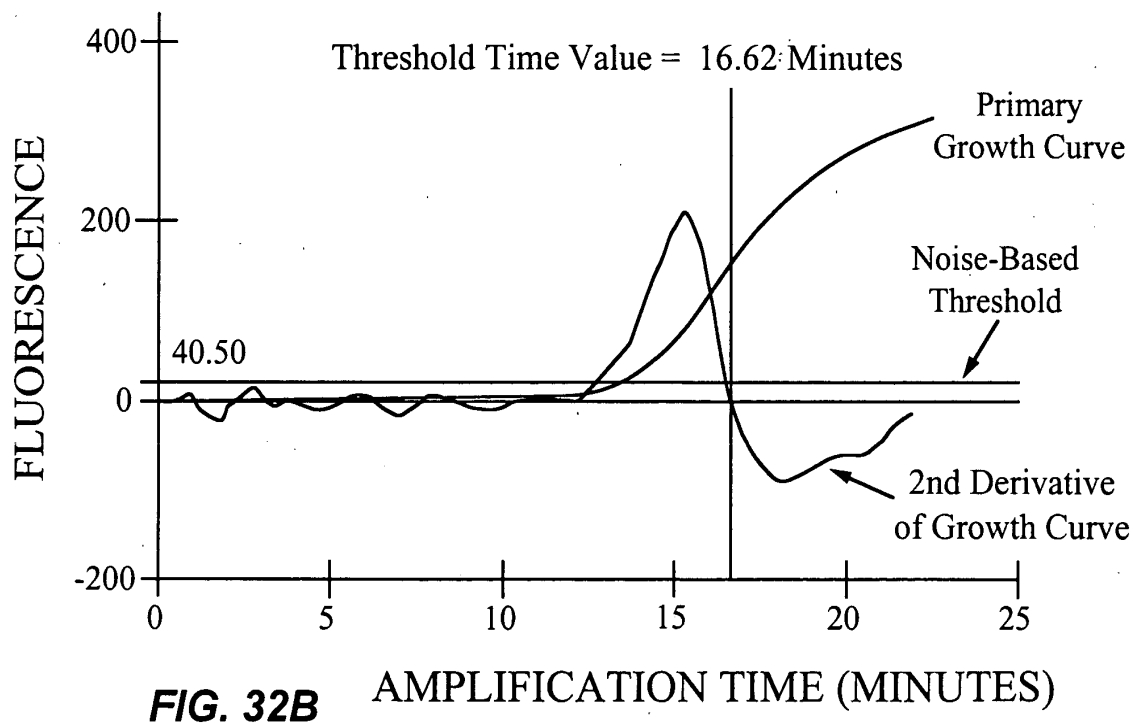
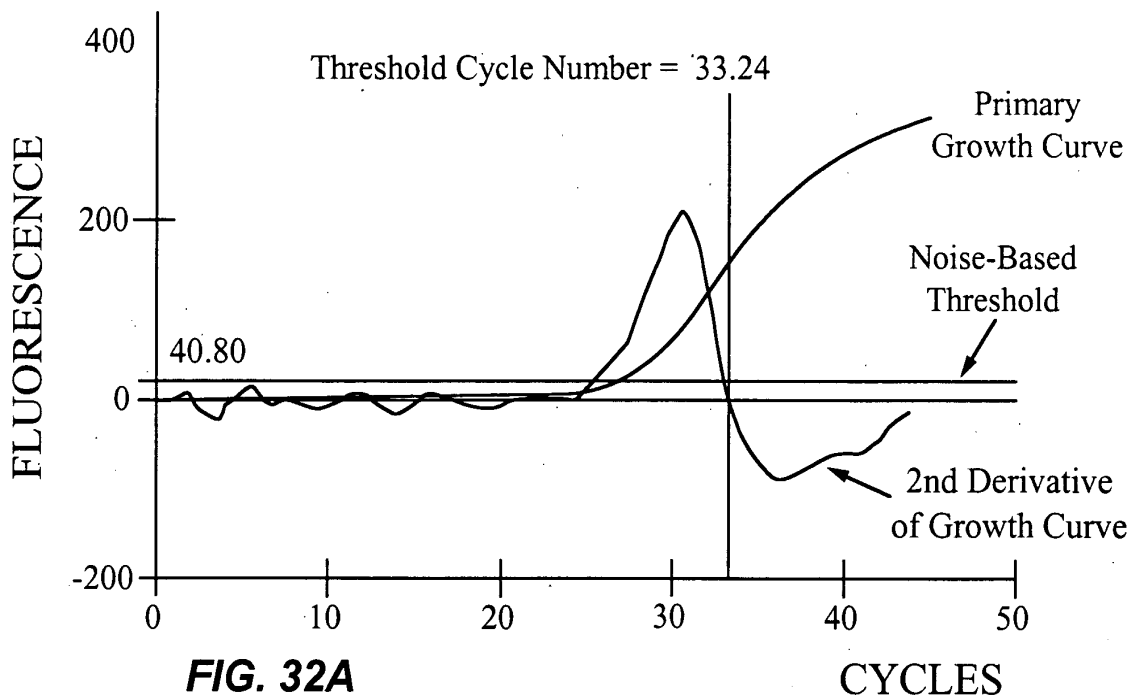
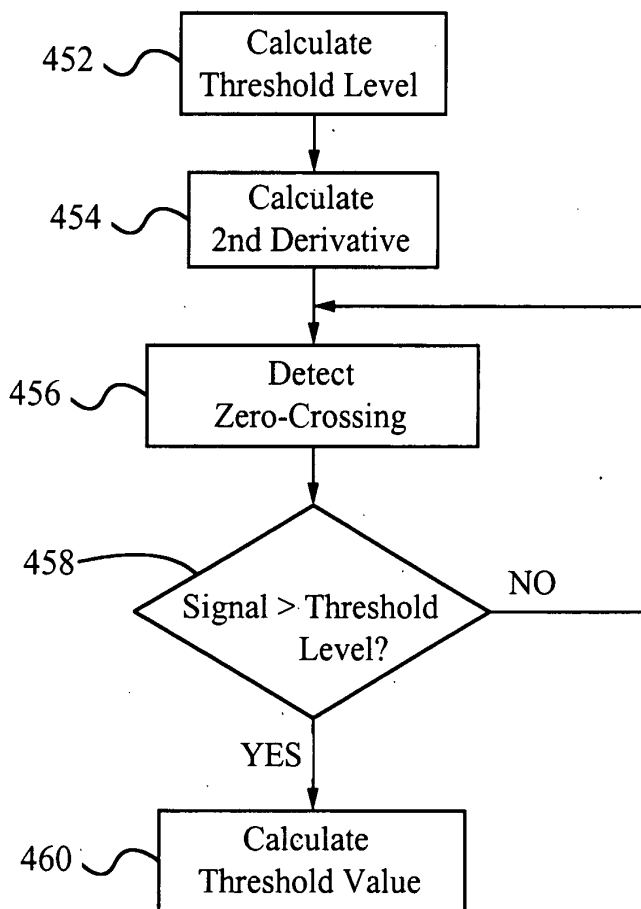


FIG. 31

APPROVED	O.G. FIG.
BY	CLASS
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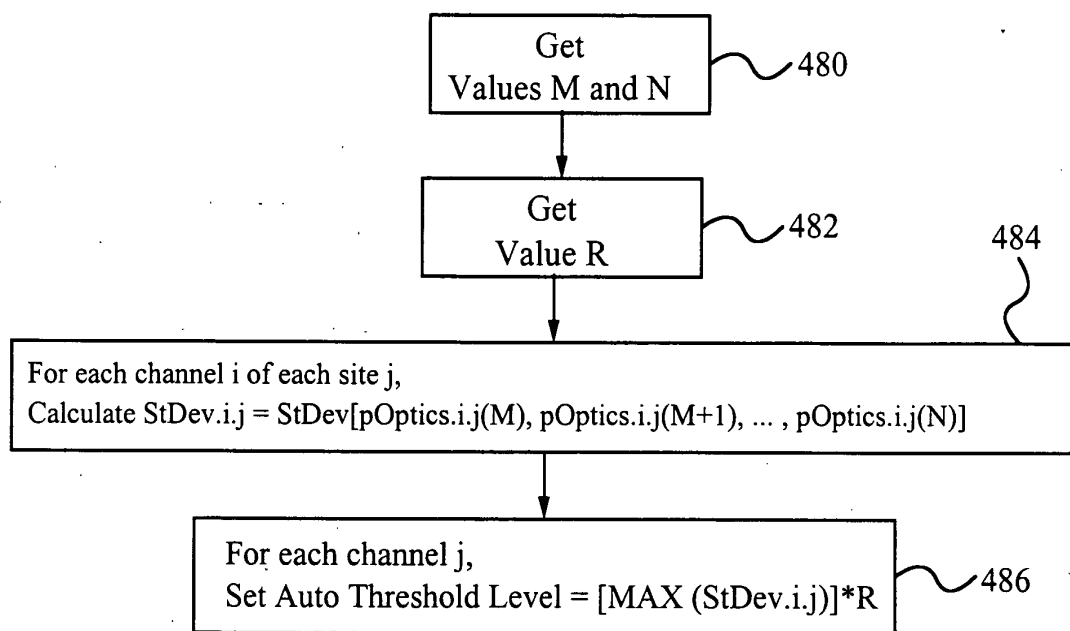




**FIG. 33**

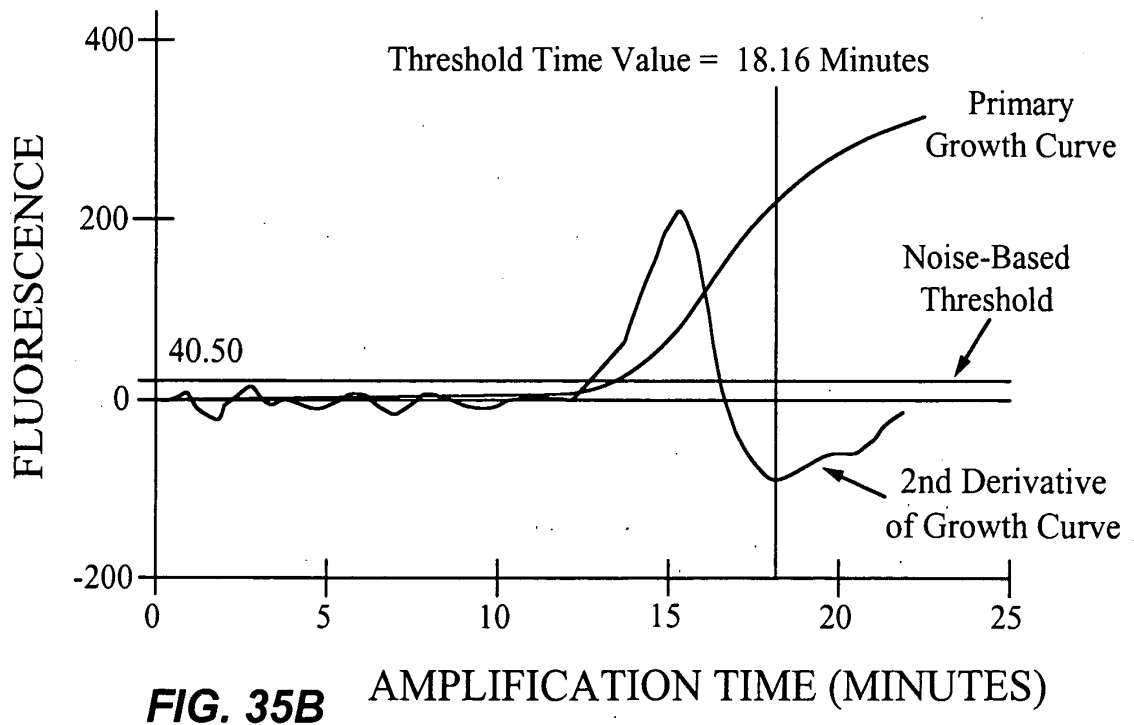
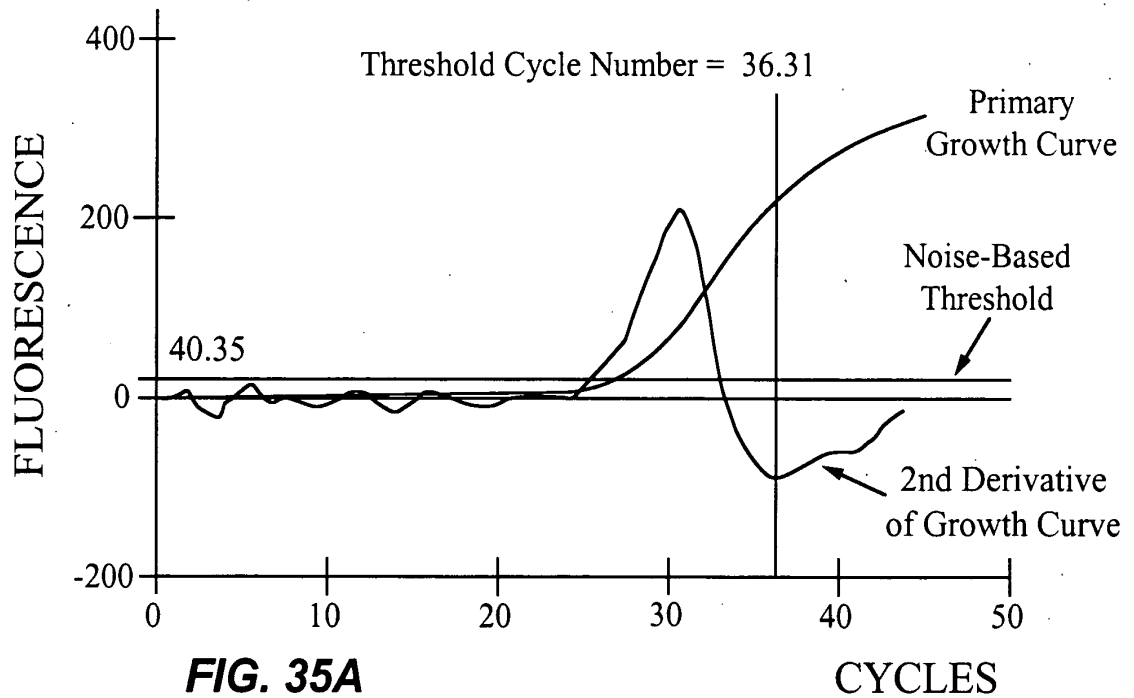


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**FIG. 34**

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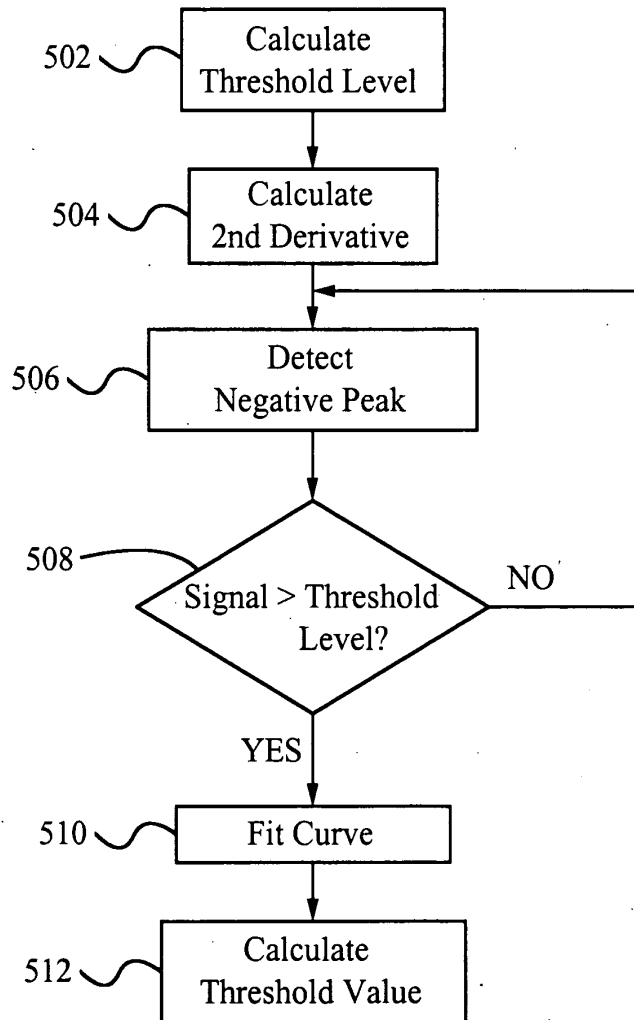
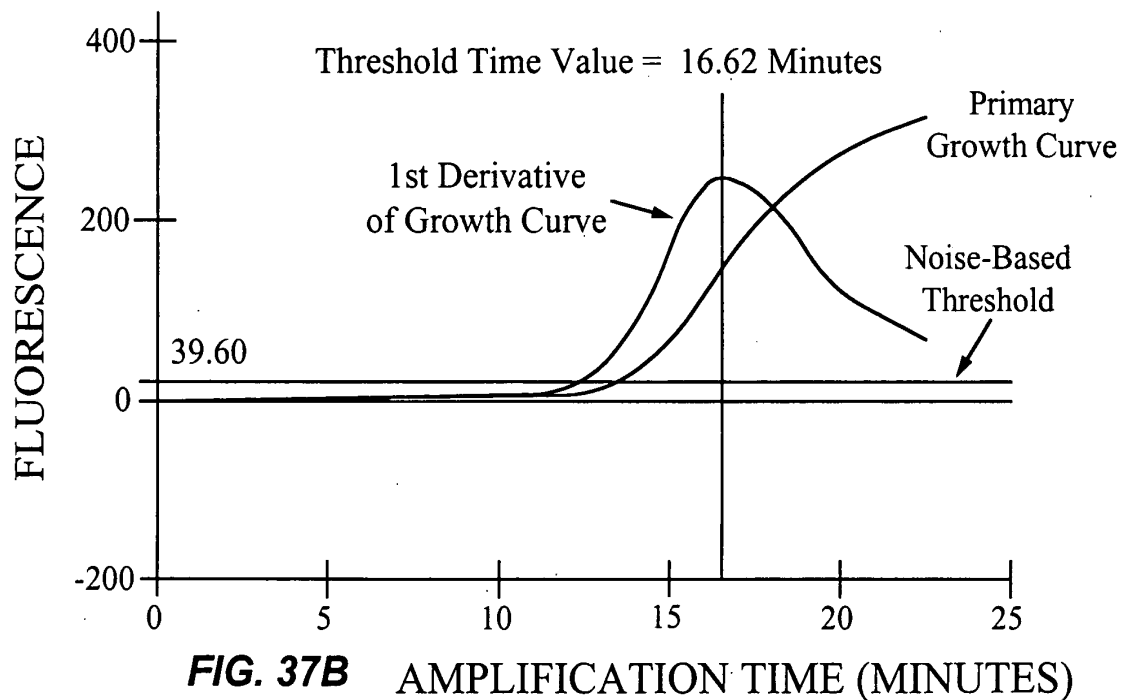
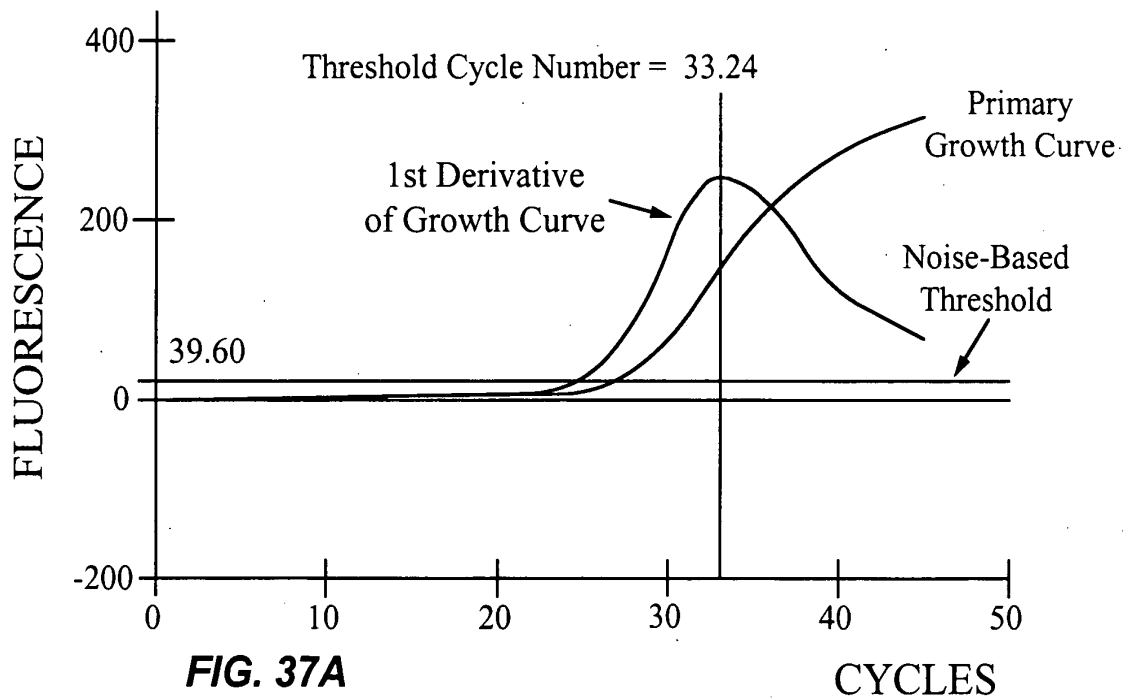


FIG. 36

APPROVED	O.C. FIG.	
BY	CLASS	SUBCLASS
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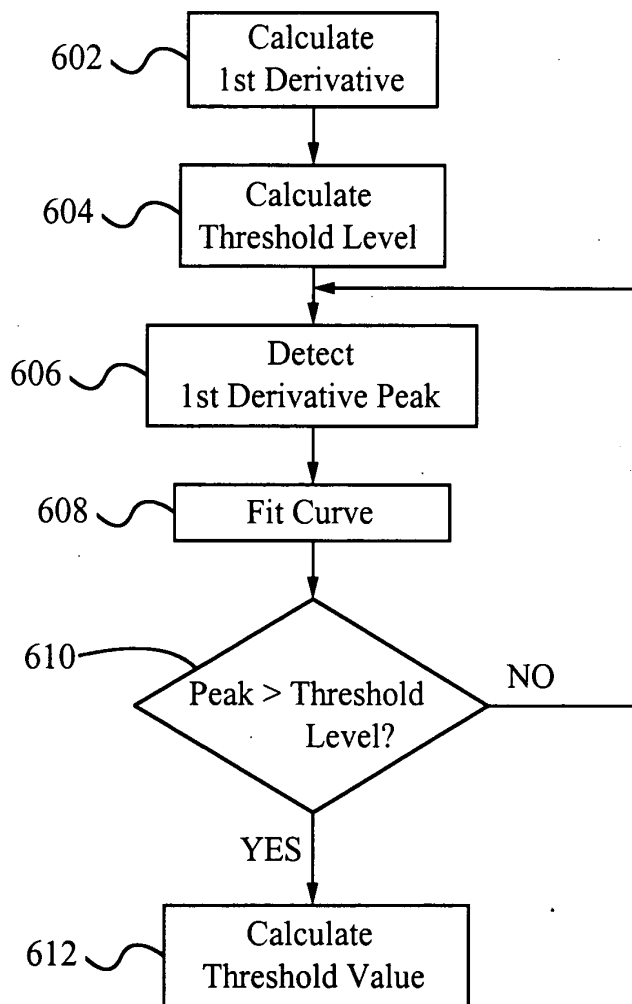
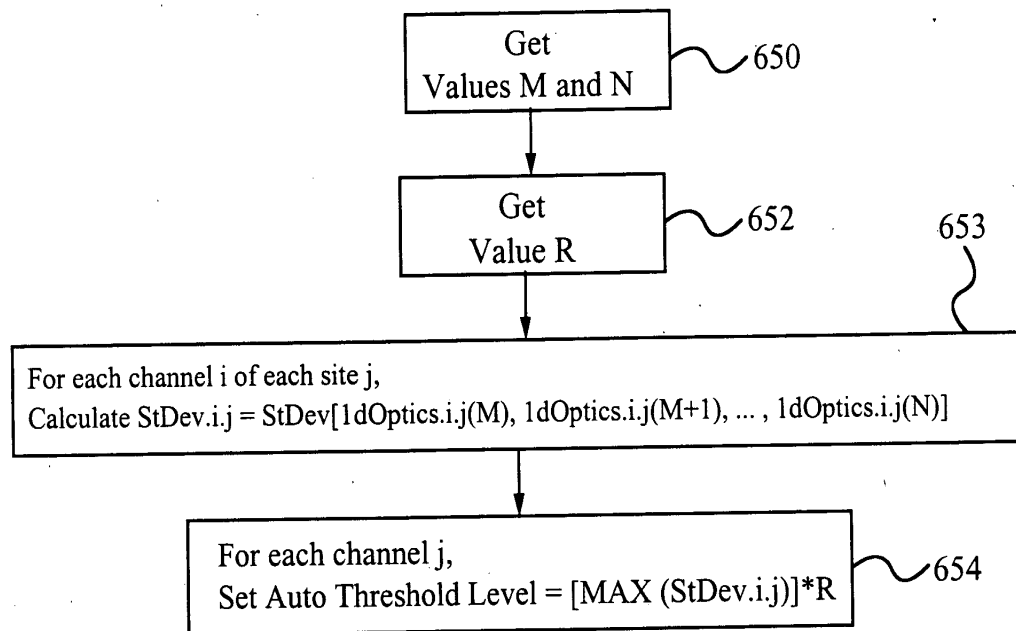


FIG. 38

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
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**FIG. 39**

APPROVED	BY	CLASS	SUBCLASS
	DRAFTS:JAN		

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Value of Standard				
Site	Sample Type	FAM	TET	TAM
A1	STD	1000	100	10
A2	STD	100	1000	0
A3	STD	0	0	1000
A4	STD	10	10	100
A5	STD	100	10	1000
A6	STD	1000	0	100
A7	STD	0	1000	0
A8	STD	10	100	10

**FIG. 40**

Threshold Values:				
Site	Type	FAM	TET	TAM
A1	STD	27.2	28.1	29.1
A2	STD	29.9	25.1	0
A3	STD	0	0	22.8
A4	STD	32.4	30.8	25.8
A5	STD	30.1	31.2	23.2
A6	STD	27.8	0	26.2
A7	STD	0	24.9	0
A8	STD	32.6	27.9	28.9

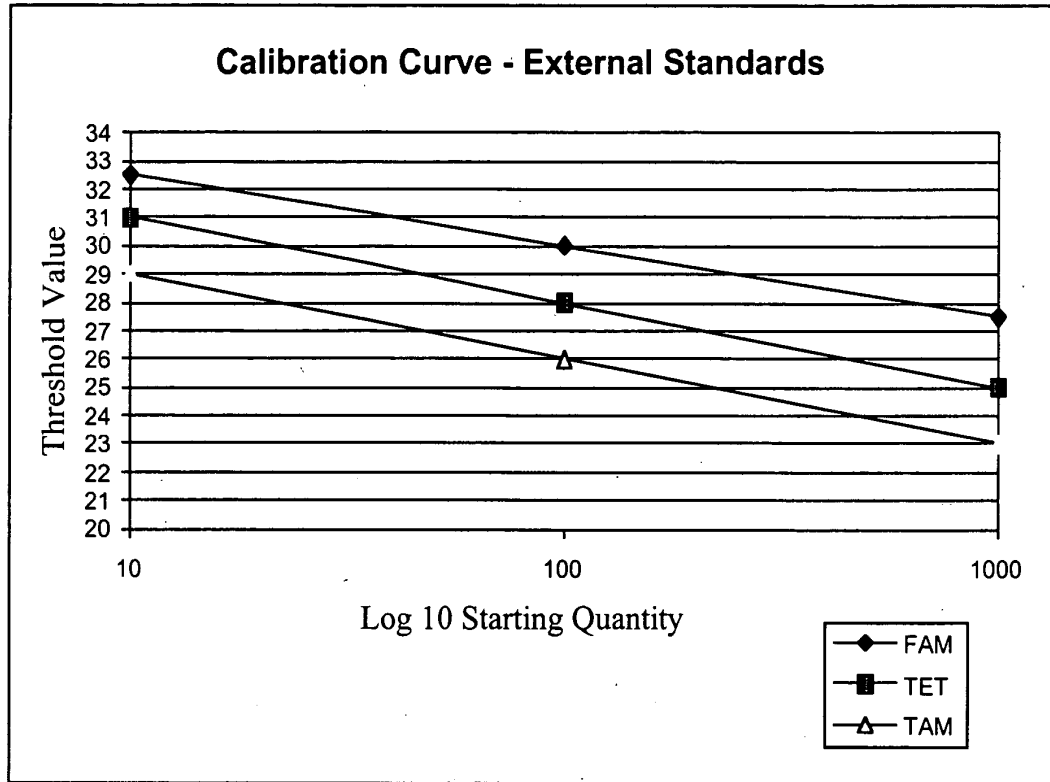
**FIG. 41**

From the above data, the averages are obtained for each dye at each starting quantity

COPIES	FAM	TET	TAM
10	32.5	31	29
100	30	28	26
1000	27.5	25	23

**FIG. 42**

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**FIG. 43**

Dye:	Threshold Value	Determined Quantity
FAM	29	251
TET	29	46
TAM	24	464

**FIG. 44**



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Site	Type	Value of Standard		
		FAM	TET	TAM
A1	STD	1000	100	N/A
A2	STD	100	1000	N/A
A3	STD	0	0	N/A
A4	STD	10	10	N/A
A5	STD	100	10	N/A
A6	STD	1000	0	N/A
A7	STD	0	1000	N/A
A8	STD	10	100	N/A

**FIG. 45**

Site	Type	Threshold Values:		
		FAM	TET	TAM
A1	STD	27.2	28.1	29.1
A2	STD	29.9	25.1	29.3
A3	STD	0	0	29.2
A4	STD	32.4	30.8	28.8
A5	STD	30.1	31.2	28.7
A6	STD	27.8	0	29.0
A7	STD	0	24.9	29.1
A8	STD	32.6	27.9	29.3

**FIG. 46**

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The threshold values for each standard are normalized to the QIC by dividing them by the threshold value of the QIC.

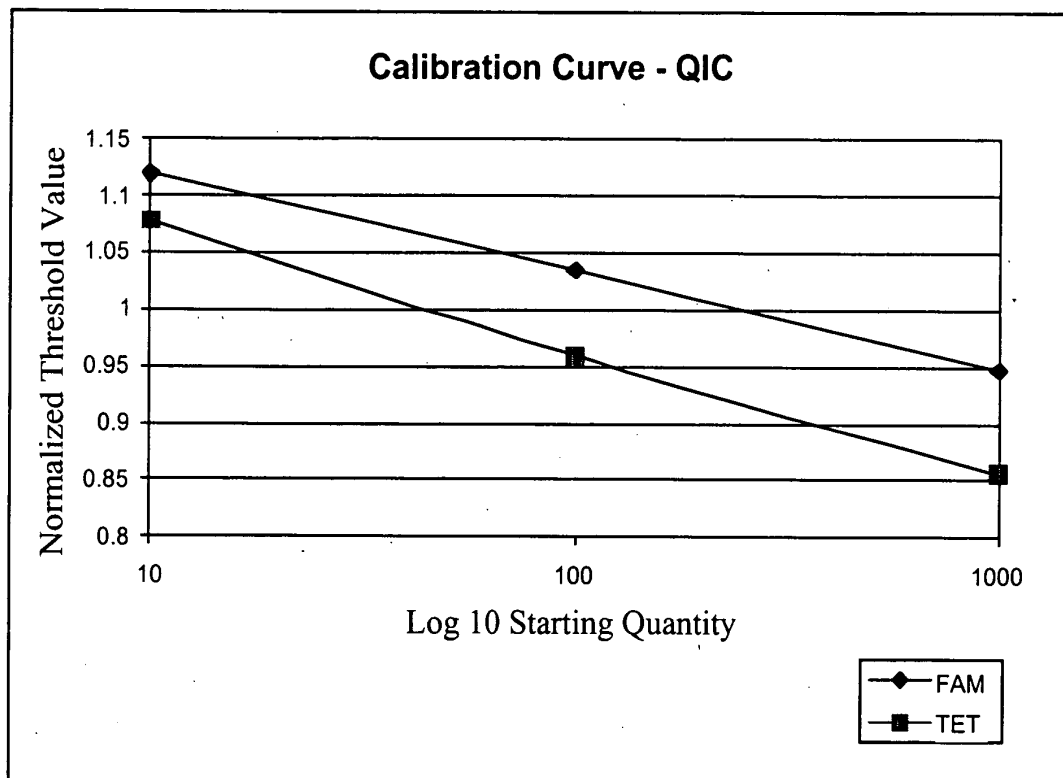
Normalized Threshold Values:				
Site	Sample Type	FAM	TET	TAM
A1	STD	0.934708	0.965636	29.1
A2	STD	1.020478	0.856655	29.3
A3	STD	0	0	29.2
A4	STD	1.125	1.069444	28.8
A5	STD	1.04878	1.087108	28.7
A6	STD	0.958621	0	29.0
A7	STD	0	0.85567	29.1
A8	STD	1.112628	0.952218	29.3

**FIG. 47**

START COPY	FAM	TET
10	1.118814	1.078276
100	1.034629	0.958927
1000	0.946664	0.856163

**FIG. 48**

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**FIG. 49**

Dye:	Threshold	QIC	Ratio	Computed Concentration
FAM	29	28.8	1.006944	210
TET	30	28.8	1.041667	21

**FIG. 50**

APPROVED	O.G. FIG.
BY	CLASS
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Site	Sample Type	FAM	Value of Standard	
			TET	TAM
A1	Unknown w ISTD	N/A	100	1000
A2	Unknown w ISTD	N/A	100	1000
A3	Unknown w ISTD	N/A	100	1000
A4	Unknown w ISTD	N/A	100	1000
A5	Unknown w ISTD	N/A	100	1000
A6	Unknown w ISTD	N/A	100	1000
A7	Unknown w ISTD	N/A	100	1000
A8	Unknown w ISTD	N/A	100	1000

**FIG. 51**

Threshold Values:				
Site	Sample Type	FAM	TET	TAM
A1	Unknown w ISTD	27.2	30.0	27.0
A2	Unknown w ISTD	29.9	30.2	27.1
A3	Unknown w ISTD	0	30.5	27.4
A4	Unknown w ISTD	32.4	29.8	26.8
A5	Unknown w ISTD	30.1	29.9	26.8
A6	Unknown w ISTD	27.8	29.5	26.5
A7	Unknown w ISTD	0	29.7	26.6
A8	Unknown w ISTD	32.6	30.0	27.1

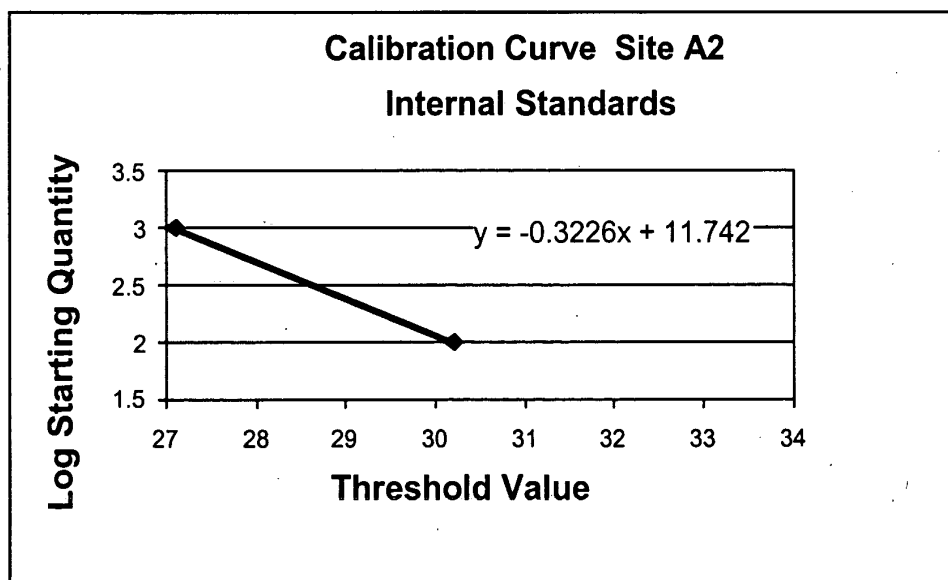
**FIG. 52**

APPROVED	O.G. FIG.
BY	CLASS
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Start Qty	Threshold	Log Start Qty
100	30.2	2
1000	27.1	3

**FIG. 53**



**FIG. 54**